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1  <?xml version="1.0" encoding="UTF-8"?>
2  <!-- edited by Dianne Kennedy TC130/WG2 August 2019 -->
3  <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:pqx="
http://idealliance.org/pqx" xmlns:cc="http://colorexchangeformat.com/CxF3-core"
targetNamespace="http://idealliance.org/pqx" elementFormDefault="qualified"
attributeFormDefault="unqualified" version="ISO-DIS-20616-2">
4      <!--
+++++++ -->
5      <xs:import namespace="http://colorexchangeformat.com/CxF3-core" schemaLocation="
http://www.npes.org/portals/0/standards/docs/CxF3_Core.xsd"/>
6      <!--
+++++++ -->
7      <!--====                    =====>
8      <!--          Print Quality Exchange                    =====>
9      <!--====                    =====>
10     <xs:element name="PQX">
11         <xs:annotation>
12             <xs:documentation xml:lang="en">root element of a print quality data
exchange from print service providers to relevant stake holders, brand
owners or print buyers</xs:documentation>
13         </xs:annotation>
14         <xs:complexType>
15             <xs:sequence>
16                 <xs:element ref="pqx:PQXInfo" minOccurs="1"/>
17                 <xs:element ref="pqx:PrinterInfo" minOccurs="1"/>
18                 <xs:element ref="pqx:PressRunInfo" minOccurs="1"/>
19                 <xs:element ref="pqx:InkCollection" minOccurs="0"/>
20                 <xs:element ref="pqx:ReporterCollection" minOccurs="0" maxOccurs="1"/>
21                 <xs:element ref="pqx:CustomerItemCollection" minOccurs="1"/>
22                 <xs:element ref="pqx:SampleCollection" minOccurs="1"/>
23                 <xs:element ref="pqx:CxFSampleData" minOccurs="0"/>
24                 <xs:element ref="pqx:CxFReferenceData" minOccurs="0"/>
25                 <xs:element ref="pqx:DefectImageData" minOccurs="0"/>
26                 <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
27                 <xs:element ref="pqx:CustomResources" minOccurs="0" maxOccurs=
"unbounded"/>
28             </xs:sequence>
29         </xs:complexType>
30     </xs:element>
31     <!--==== ++++++ =====>
32     <!--====                    =====>
33     <!--====      FileInfo                    =====>
34     <!--==== ++++++ =====>
35     <xs:element name="PQXInfo">
36         <xs:annotation>
37             <xs:documentation xml:lang="en">set of fields that provide metadata about
this print quality report</xs:documentation>
38         </xs:annotation>
39         <xs:complexType>
40             <xs:sequence>
41                 <xs:element ref="pqx:PQXDate" minOccurs="1"/>
42                 <xs:element ref="pqx:PQXId" minOccurs="1"/>
43                 <xs:element ref="pqx:PQXSoftware-Version" minOccurs="0"/>
44                 <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
45             </xs:sequence>
46         </xs:complexType>
47     </xs:element>
48     <!--====                    =====>
49     <!--====      PQX   Date                    =====>
50     <!--====                    =====>
51     <xs:element name="PQXDate" type="pqx:dateOrDateTime">
52         <xs:annotation>
53             <xs:documentation xml:lang="en">field that provides the file generation
date or date/time in ISO format for this PQX file</xs:documentation>
54         </xs:annotation>
55     </xs:element>

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56      <!--====          =====>
57      <!--====          PQX Id          =====>
58      <!--====          =====>
59      <xs:element name="PQXId" type="xs:string">
60          <xs:annotation>
61              <xs:documentation xml:lang="en">field that provides an identifier for the
                PQX quality report, unique within scope of the system of origin on the
                specified PQXDate</xs:documentation>
62          </xs:annotation>
63      </xs:element>
64      <!--====          =====>
65      <!--====          PQX file Software          =====>
66      <!--====          =====>
67      <xs:element name="PQXSoftware-Version" type="xs:string">
68          <xs:annotation>
69              <xs:documentation xml:lang="en">field that provides the software and
                version used to generate this PQX file</xs:documentation>
70          </xs:annotation>
71      </xs:element>
72      <!--==== ++++++ =====>
73      <!--====          =====>
74      <!--====          Customer Item Collection          =====>
75      <!--====          =====>
76      <xs:element name="CustomerItemCollection">
77          <xs:annotation>
78              <xs:documentation xml:lang="en">set of fields that provide information
                about all items that were printed for a print buyer</xs:documentation>
79          </xs:annotation>
80          <xs:complexType>
81              <xs:sequence>
82                  <xs:element ref="pqx:CustomerItem" minOccurs="1" maxOccurs="unbounded"/>
83              </xs:sequence>
84          </xs:complexType>
85      </xs:element>
86      <!--====          =====>
87      <!--====          Customer Item          =====>
88      <!--====          =====>
89      <xs:element name="CustomerItem">
90          <xs:annotation>
91              <xs:documentation xml:lang="en">set of fields describing a printed item
                </xs:documentation>
92          </xs:annotation>
93          <xs:complexType>
94              <xs:sequence>
95                  <xs:element ref="pqx:Customer" minOccurs="1"/>
96                  <xs:choice minOccurs="0">
97                      <xs:sequence>
98                          <xs:element ref="pqx:Brand"/>
99                          <xs:element ref="pqx:Product"/>
100                     </xs:sequence>
101                     <xs:element ref="pqx:Brand-Product"/>
102                 </xs:choice>
103                 <xs:element ref="pqx:Agent" minOccurs="0" maxOccurs="unbounded"/>
104                 <xs:element ref="pqx:QualitySpecEmployed" minOccurs="0" maxOccurs="
                    "unbounded"/>
105                 <xs:element ref="pqx:ItemDescription" minOccurs="0"/>
106                 <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
107             </xs:sequence>
108             <xs:attribute name="Id" type="xs:ID" use="required">
109                 <xs:annotation>
110                     <xs:documentation xml:lang="en">field that provides unique
                        identification (within the scope of the PQX file) of this printed
                        item</xs:documentation>
111                 </xs:annotation>
112             </xs:attribute>
113             <xs:attribute name="IdDisplayName" type="pqx:customerItemIdType" use=

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114         "required">
115             <xs:annotation>
116                 <xs:documentation xml:lang="en">type or name of the identifier code
117                     such as "SKU" "artCode" or "GCAS"</xs:documentation>
118             </xs:annotation>
119         </xs:attribute>
120     </xs:complexType>
121 </xs:element>
122 <!--====>
123 <!--====> Brand <!--====>
124 <!--====>
125 <xs:element name="Brand" type="xs:string">
126     <xs:annotation>
127         <xs:documentation xml:lang="en">field that provides a designation for a
128             product or set of products for which print quality data was captured
129         </xs:documentation>
130     </xs:annotation>
131 </xs:element>
132 <!--====>
133 <!--====> Product <!--====>
134 <!--====>
135 <xs:element name="Product" type="xs:string">
136     <xs:annotation>
137         <xs:documentation xml:lang="en">field that provides a word or words by
138             which an item offered for sale is known</xs:documentation>
139     </xs:annotation>
140 </xs:element>
141 <!--====>
142 <!--====> Brand-Product <!--====>
143 <!--====>
144 <xs:element name="Brand-Product" type="xs:string">
145     <xs:annotation>
146         <xs:documentation xml:lang="en">field that identifies the product brand
147             owner's brand and product designation (expressed as a concatenated string
148             with a vertical bar separator) for an item offered for sale
149         </xs:documentation>
150     </xs:annotation>
151 </xs:element>
152 <!--====>
153 <!--====> Item Description <!--====>
154 <!--====>
155 <xs:element name="ItemDescription" type="xs:string">
156     <xs:annotation>
157         <xs:documentation xml:lang="en">field that provides a description for this
158             printed customer item</xs:documentation>
159     </xs:annotation>
160 </xs:element>
161 <!--====>
162 <!--====> Parent Company Name <!--====>
163 <!--====>
164 <xs:element name="ParentCompany" type="xs:string">
165     <xs:annotation>
166         <xs:documentation xml:lang="en">field that identifies a company that
167             controls a smaller, entity such as a printer, print buyer or agent
168     </xs:documentation>
169     </xs:annotation>
170 </xs:element>
171 <!--====>
172 <!--====> Company Name <!--====>
173 <!--====>
174 <xs:element name="CompanyName" type="xs:string">
175     <xs:annotation>
176         <xs:documentation xml:lang="en">field that identifies the print buyer,
177             printer, print quality service provider or other entity</xs:documentation>
178     </xs:annotation>
179 </xs:element>

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168 <!--====>
169 <!--==== Location >====>
170 <!--====>
171 <xs:element name="LocationDesignator" type="xs:string">
172 <xs:annotation>
173 <xs:documentation xml:lang="en">field that provides an identifier for the
location of a company or party as a second level of identification for that
company or party</xs:documentation>
174 </xs:annotation>
175 </xs:element>
176 <!--====>
177 <!--==== Contact >====>
178 <!--====>
179 <xs:element name="ContactDesignator" type="xs:string">
180 <xs:annotation>
181 <xs:documentation xml:lang="en">field that provides an identifier for the
business contact such as a contact name, email, phone, contact Id or a
combination of these</xs:documentation>
182 </xs:annotation>
183 </xs:element>
184 <!--====>
185 <!--==== Customer >====>
186 <!--====>
187 <xs:element name="Customer">
188 <xs:annotation>
189 <xs:documentation xml:lang="en">field that identifies the party for which
print quality data was captured</xs:documentation>
190 </xs:annotation>
191 <xs:complexType>
192 <xs:sequence>
193 <xs:element ref="pqx:ParentCompany" minOccurs="0"/>
194 <xs:element ref="pqx:CompanyName" minOccurs="1"/>
195 <xs:element ref="pqx:LocationDesignator" minOccurs="1"/>
196 <xs:element ref="pqx:ContactDesignator" minOccurs="0"/>
197 </xs:sequence>
198 </xs:complexType>
199 </xs:element>
200 <!--====>
201 <!--==== Agent >====>
202 <!--====>
203 <xs:element name="Agent">
204 <xs:annotation>
205 <xs:documentation xml:lang="en">field that identifies a secondary party
interested in print quality such as a broker, print buyer or supplier
</xs:documentation>
206 </xs:annotation>
207 <xs:complexType>
208 <xs:sequence>
209 <xs:element ref="pqx:ParentCompany" minOccurs="0"/>
210 <xs:element ref="pqx:CompanyName" minOccurs="1"/>
211 <xs:element ref="pqx:LocationDesignator" minOccurs="1"/>
212 <xs:element ref="pqx:ContactDesignator" minOccurs="0"/>
213 </xs:sequence>
214 <xs:attribute name="Role" type="pqx:agentRoleType" use="required">
215 <xs:annotation>
216 <xs:documentation xml:lang="en">field indicating the part played by
an entity as part of a complex print buying supply chain
</xs:documentation>
217 </xs:annotation>
218 </xs:attribute>
219 </xs:complexType>
220 </xs:element>
221 <!--====>
222 <!--==== Quality Spec Employed >====>
223 <!--====>
224 <xs:element name="QualitySpecEmployed">

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225     <xs:annotation>
226         <xs:documentation xml:lang="en">set of fields that provides an
            informational reference to the quality specification employed for the press
            run</xs:documentation>
227     </xs:annotation>
228     <xs:complexType>
229         <xs:attribute name="QualitySpecName" type="xs:string" use="required">
230             <xs:annotation>
231                 <xs:documentation xml:lang="en">field that provides the Choice
                    between Brand followed by Product or the combined Brand-Product
                    element may be employed at the request of the print buyer or at the
                    discretion of the printer or reporter.</xs:documentation>
232             </xs:annotation>
233         </xs:attribute>
234         <xs:attribute name="QualitySpecVersion" type="xs:string" use="required">
235             <xs:annotation>
236                 <xs:documentation xml:lang="en">field that provides the version of
                    the customer's quality specification</xs:documentation>
237             </xs:annotation>
238         </xs:attribute>
239     </xs:complexType>
240 </xs:element>
241 <!-- ++++++----->
242 <!--====>
243 <!--==== Printer Info Block >
244 <!--====>
245 <xs:element name="PrinterInfo">
246     <xs:annotation>
247         <xs:documentation xml:lang="en">set of fields that describe the print
            service provider that printed the items from which print quality data was
            captured</xs:documentation>
248     </xs:annotation>
249     <xs:complexType>
250         <xs:sequence>
251             <xs:element ref="pqx:ParentCompany" minOccurs="0"/>
252             <xs:element ref="pqx:Printer" minOccurs="1"/>
253             <xs:element ref="pqx:LocationDesignator" minOccurs="1"/>
254             <xs:element ref="pqx:ContactDesignator" minOccurs="0"/>
255             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
256         </xs:sequence>
257     </xs:complexType>
258 </xs:element>
259 <!--====>
260 <!--==== Printer >
261 <!--====>
262 <xs:element name="Printer" type="xs:string">
263     <xs:annotation>
264         <xs:documentation xml:lang="en">field that provides the name of the print
            service provider responsible for printing items purchased by a print buyer
            </xs:documentation>
265     </xs:annotation>
266 </xs:element>
267 <!--====>
268 <!--==== Press Run Information >
269 <!--====>
270 <xs:element name="PressRunInfo">
271     <xs:annotation>
272         <xs:documentation xml:lang="en">set of fields that provide the physical
            characteristics of the continuous operation of a printing press for the job
            that produced the printed item from which print quality data was captured
            </xs:documentation>
273     </xs:annotation>
274     <xs:complexType>
275         <xs:sequence>
276             <xs:element ref="pqx:DatePrinted"/>
277             <xs:element ref="pqx:PrinterLotId" minOccurs="1"/>

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278         <xs:element ref="pqx:RunLength" minOccurs="0"/>
279         <xs:element ref="pqx:PrintMethod" minOccurs="0"/>
280         <xs:element ref="pqx:PrintSide" minOccurs="0"/>
281         <xs:element ref="pqx:PressLine" minOccurs="0"/>
282         <xs:element ref="pqx:PressOperator" minOccurs="0"/>
283         <xs:element ref="pqx:Shift" minOccurs="0"/>
284         <xs:element ref="pqx:PrinterComments" minOccurs="0" maxOccurs="1"/>
285         <xs:element ref="pqx:PrinterJobDescription" minOccurs="0"/>
286         <xs:element ref="pqx:PrinterJobNumber" minOccurs="0" maxOccurs="1"/>
287         <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
288     </xs:sequence>
289 </xs:complexType>
290 </xs:element>
291 <!--====>
292 <!--==== Date Printed >
293 <!--====>
294 <xs:element name="DatePrinted" type="pqx:dateOrDateTime">
295     <xs:annotation>
296         <xs:documentation xml:lang="en">field that provides the date of the press
                run in an ISO date or date/time format</xs:documentation>
297     </xs:annotation>
298 </xs:element>
299 <!--====>
300 <!--==== Printer Lot Id >
301 <!--====>
302 <xs:element name="PrinterLotId" type="xs:string">
303     <xs:annotation>
304         <xs:documentation xml:lang="en">field used by the printer to uniquely
                identify the press run, or collection of items (pieces of art) and press
                sheets, panels, cans, etc. from which print quality data was captured
305         </xs:documentation>
306     </xs:annotation>
307 </xs:element>
308 <!--====>
309 <!--==== Run Length >
310 <!--====>
311 <xs:element name="RunLength">
312     <xs:annotation>
313         <xs:documentation xml:lang="en">set of fields that provides the length of
                the press run that produced the printed sample from which print quality
                data was captured</xs:documentation>
314     </xs:annotation>
315     <xs:complexType>
316         <xs:attribute name="TotalRolls" type="xs:positiveInteger">
317             <xs:annotation>
318                 <xs:documentation xml:lang="en">field that provides the total
                        number of substrate rolls used for the press run</xs:documentation>
319             </xs:annotation>
320         </xs:attribute>
321         <xs:attribute name="TotalMeterage" type="pqx:meterageValueType" use=
            "required">
322             <xs:annotation>
323                 <xs:documentation xml:lang="en">field that provides the total
                        meterage or count indicator value for the entire press run
324             </xs:documentation>
325             </xs:annotation>
326         </xs:attribute>
327         <xs:attribute name="UoM" type="pqx:meterageUoMType" use="required">
328             <xs:annotation>
329                 <xs:documentation xml:lang="en">field that provides the unit used
                        for expressing the meterage for the press-run position
330             </xs:documentation>
331             </xs:annotation>
332         </xs:attribute>
333     </xs:complexType>
334 </xs:element>

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332      <!--====          =====>
333      <!--====          Print Method          =====>
334      <!--====          =====>
335      <xs:element name="PrintMethod" type="pqx:printMethodType">
336          <xs:annotation>
337              <xs:documentation xml:lang="en">field that provides an account of the
                 mechanism by which the sample was printed</xs:documentation>
338          </xs:annotation>
339      </xs:element>
340      <!--====          =====>
341      <!--====          Print Side          =====>
342      <!--====          =====>
343      <xs:element name="PrintSide" type="pqx:printSideType">
344          <xs:annotation>
345              <xs:documentation xml:lang="en">field that provides the side of the
                 substrate where the image is printed
346              </xs:documentation>
347          </xs:annotation>
348      </xs:element>
349      <!--====          =====>
350      <!--====          Press Line          =====>
351      <!--====          =====>
352      <xs:element name="PressLine" type="xs:string">
353          <xs:annotation>
354              <xs:documentation xml:lang="en">field that provides the line within a print
                 shop where the press run took place</xs:documentation>
355          </xs:annotation>
356      </xs:element>
357      <!--====          =====>
358      <!--====          Press Operator          =====>
359      <!--====          =====>
360      <xs:element name="PressOperator" type="xs:string">
361          <xs:annotation>
362              <xs:documentation xml:lang="en">field that identifies the person running
                 the press
363              </xs:documentation>
364          </xs:annotation>
365      </xs:element>
366      <!--====          =====>
367      <!--====          Shift          =====>
368      <!--====          =====>
369      <xs:element name="Shift" type="xs:string">
370          <xs:annotation>
371              <xs:documentation xml:lang="en">field that provides the printer workforce
                 period when the press run took place</xs:documentation>
372          </xs:annotation>
373      </xs:element>
374      <!--====          =====>
375      <!--====          Printer Comments          =====>
376      <!--====          =====>
377      <xs:element name="PrinterComments" type="xs:string">
378          <xs:annotation>
379              <xs:documentation xml:lang="en">field provided for the printer to transmit
                 additional data to the print buyer</xs:documentation>
380          </xs:annotation>
381      </xs:element>
382      <!--====          =====>
383      <!--====          Printer Job Description          =====>
384      <!--====          =====>
385      <xs:element name="PrinterJobDescription" type="xs:string">
386          <xs:annotation>
387              <xs:documentation xml:lang="en">field used by the printer to providea
                 human-readable account of the print run from which print quality data was
                 captured. </xs:documentation>
388          </xs:annotation>
389      </xs:element>

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390      <!--====          =====>
391      <!--====          Printer Job Number      =====>
392      <!--====          =====>
393      <xs:element name="PrinterJobNumber" type="xs:string">
394          <xs:annotation>
395              <xs:documentation xml:lang="en">field that captures a printer-generated
396                  identifier for the press run</xs:documentation>
397          </xs:annotation>
398      </xs:element>
399      <!--====          =====>
400      <!--====          Ink Collection      =====>
401      <!--====          =====>
402      <xs:element name="InkCollection">
403          <xs:annotation>
404              <xs:documentation xml:lang="en">set of fields that provide information
405                  about all inks that were used to print customer items for quality reporting
406              </xs:documentation>
407          </xs:annotation>
408          <xs:complexType>
409              <xs:sequence>
410                  <xs:element ref="pqx:Ink" minOccurs="1" maxOccurs="unbounded"/>
411              </xs:sequence>
412          </xs:complexType>
413      </xs:element>
414      <!--====          =====>
415      <!--====          Ink      =====>
416      <!--====          =====>
417      <xs:element name="Ink">
418          <xs:annotation>
419              <xs:documentation xml:lang="en">set of fields that provide a description of
420                  the fluid or viscous substance used for this press run</xs:documentation>
421          </xs:annotation>
422          <xs:complexType>
423              <xs:sequence>
424                  <xs:element ref="pqx:InkPrintOrder"/>
425                  <xs:element ref="pqx:InkName"/>
426                  <xs:element ref="pqx:InkChannelName" minOccurs="0"/>
427                  <xs:element ref="pqx:InkChannelType" minOccurs="0"/>
428                  <xs:element ref="pqx:InkType" minOccurs="0"/>
429                  <xs:element ref="pqx:InkPrintMethod" minOccurs="0"/>
430                  <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
431              </xs:sequence>
432              <xs:attribute name="Id" type="xs:ID" use="required">
433                  <xs:annotation>
434                      <xs:documentation xml:lang="en">field that provides unique
435                          identification (within the scope of the PQX file) for this ink
436                      </xs:documentation>
437                  </xs:annotation>
438              </xs:attribute>
439          </xs:complexType>
440      </xs:element>
441      <!--====          =====>
442      <!--====          Ink Print Order      =====>
443      <!--====          =====>
444      <xs:element name="InkPrintOrder" type="xs:positiveInteger">
445          <xs:annotation>
446              <xs:documentation xml:lang="en">field that provides the numerical order
447                  that this ink prints among all the inks on a sample with "1" being the
448                  first ink printed on a substrate</xs:documentation>
449          </xs:annotation>
450      </xs:element>
451      <!--====          =====>
452      <!--====          Ink Name      =====>
453      <!--====          =====>
454      <xs:element name="InkName" type="xs:string">
455          <xs:annotation>

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448         <xs:documentation xml:lang="en">field that provides a word or set of words
         by which an ink is known</xs:documentation>
449     </xs:annotation>
450 </xs:element>
451 <!--====>
452 <!--==== Ink Channel Name >
453 <!--====>
454 <xs:element name="InkChannelName" type="pqx:inkChannelNameType">
455     <xs:annotation>
456         <xs:documentation xml:lang="en">field that provides a name for a channel on
         press </xs:documentation>
457     </xs:annotation>
458 </xs:element>
459 <!--====>
460 <!--==== Ink Channel Type >
461 <!--====>
462 <xs:element name="InkChannelType" type="pqx:inkChannelTypeType">
463     <xs:annotation>
464         <xs:documentation xml:lang="en">field that provides a classification for
         the ink channel as process, spot or coating</xs:documentation>
465     </xs:annotation>
466 </xs:element>
467 <!--====>
468 <!--==== Ink Type >
469 <!--====>
470 <xs:element name="InkType" type="pqx:inkTypeType">
471     <xs:annotation>
472         <xs:documentation xml:lang="en">field that provides the classification of
         an ink printed in terms of colorant, vehicle and curing etc.
         </xs:documentation>
473     </xs:annotation>
474 </xs:element>
475 <!--====>
476 <!--==== Ink Print Method >
477 <!--====>
478 <xs:element name="InkPrintMethod" type="pqx:printMethodType">
479     <xs:annotation>
480         <xs:documentation xml:lang="en">field that provides an account of the
         mechanism by which this ink was printed on the sample</xs:documentation>
481     </xs:annotation>
482 </xs:element>
483 <!--====>
484 <!--==== Reporter Collection >
485 <!--====>
486 <xs:element name="ReporterCollection">
487     <xs:annotation>
488         <xs:documentation xml:lang="en">set of fields that provide information
         about all the systems and/or individuals responsible for the quality data
         capture for the reports in the PQX file</xs:documentation>
489     </xs:annotation>
490     <xs:complexType>
491         <xs:sequence>
492             <xs:element ref="pqx:Reporter" minOccurs="1" maxOccurs="unbounded"/>
493         </xs:sequence>
494     </xs:complexType>
495 </xs:element>
496 <!--====>
497 <!--==== Reporter >
498 <!--====>
499 <xs:element name="Reporter">
500     <xs:annotation>
501         <xs:documentation xml:lang="en">field that identifies the automated system
         or person/company that captured the quality data used to generate this PQX
         file</xs:documentation>
502     </xs:annotation>
503     <xs:complexType>

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504         <xs:sequence>
505             <xs:choice>
506                 <xs:element ref="pqx:QualityServiceProvider"/>
507                 <xs:element ref="pqx:PrinterQA"/>
508                 <xs:element ref="pqx:AutomatedPressControl"/>
509             </xs:choice>
510             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
511         </xs:sequence>
512         <xs:attribute name="Id" type="xs:ID" use="required">
513             <xs:annotation>
514                 <xs:documentation xml:lang="en">field that provides unique
                    identification (within the scope of the PQX file) for this reporter
                    </xs:documentation>
515             </xs:annotation>
516         </xs:attribute>
517     </xs:complexType>
518 </xs:element>
519 <!-- ++++++ =====>
520 <!--==== =====>
521 <!--==== Reporter Id-Link Element =====>
522 <!--==== =====>
523 <xs:element name="ReporterIdLink" type="xs:NCName">
524     <xs:annotation>
525         <xs:documentation xml:lang="en">field that provides a connection to the
            system or company/individual responsible for data capture for a quality
            report</xs:documentation>
526     </xs:annotation>
527 </xs:element>
528 <!-- ++++++ --->
529 <!--==== =====>
530 <!--==== Quality Service Provider Block =====>
531 <!--==== =====>
532 <xs:element name="QualityServiceProvider">
533     <xs:annotation>
534         <xs:documentation xml:lang="en">set of fields that carry information about
            a party, other than the printer, that was responsible for observing or
            measuring the printed item</xs:documentation>
535     </xs:annotation>
536     <xs:complexType>
537         <xs:sequence>
538             <xs:element ref="pqx:CompanyName"/>
539             <xs:element ref="pqx:LocationDesignator"/>
540             <xs:element ref="pqx:ReportingPerson" minOccurs="0"/>
541             <xs:element ref="pqx:ContactDesignator" minOccurs="0"/>
542             <xs:element ref="pqx:DateReceivedFromPrinter" minOccurs="0"/>
543             <xs:element ref="pqx:ReporterComments" minOccurs="0" maxOccurs="1"/>
544             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
545         </xs:sequence>
546     </xs:complexType>
547 </xs:element>
548 <!-- ++++++ --->
549 <!--==== =====>
550 <!--==== Printer QA Block =====>
551 <!--==== =====>
552 <xs:element name="PrinterQA">
553     <xs:annotation>
554         <xs:documentation xml:lang="en">set of fields that carry information about
            the party at the printer, that was responsible for reporting on a printed
            item</xs:documentation>
555     </xs:annotation>
556     <xs:complexType>
557         <xs:sequence>
558             <xs:element ref="pqx:ReportingPerson" minOccurs="1"/>
559             <xs:element ref="pqx:ContactDesignator" minOccurs="0"/>
560             <xs:element ref="pqx:ReporterComments" minOccurs="0" maxOccurs="1"/>
561             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>

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562         </xs:sequence>
563     </xs:complexType>
564 </xs:element>
565 <!--====>
566 <!--==== Reporting Person >
567 <!--====>
568 <xs:element name="ReportingPerson" type="xs:string">
569     <xs:annotation>
570         <xs:documentation xml:lang="en">field that identifies the person that
            captured the quality data used to generate this PQX file</xs:documentation>
571     </xs:annotation>
572 </xs:element>
573 <!--====>
574 <!--==== Date Recieved from Printer >
575 <!--====>
576 <xs:element name="DateReceivedFromPrinter" type="pqx:dateOrDateTime">
577     <xs:annotation>
578         <xs:documentation xml:lang="en">field that provides the date or date/time
            in the ISO format that a quality sample was delivered from the printer to a
            third-party service provider for evaluation</xs:documentation>
579     </xs:annotation>
580 </xs:element>
581 <!--====>
582 <!--==== Reporter Comments >
583 <!--====>
584 <xs:element name="ReporterComments" type="xs:string">
585     <xs:annotation>
586         <xs:documentation xml:lang="en">field provided for the party that conducted
            measurement and visual evaluations to transmit additional reporting data
            </xs:documentation>
587     </xs:annotation>
588 </xs:element>
589 <!-- ++++++>
590 <!--====>
591 <!--==== Automated Press Controls >
592 <!--====>
593 <xs:element name="AutomatedPressControl">
594     <xs:annotation>
595         <xs:documentation xml:lang="en">set of fields that describe the digital,
            on-press system responsible for data capture for a quality report
            </xs:documentation>
596     </xs:annotation>
597     <xs:complexType>
598         <xs:sequence>
599             <xs:element ref="pqx:ControlSystemCompanyName" minOccurs="1"/>
600             <xs:element ref="pqx:ControlSystemBrand" minOccurs="1"/>
601             <xs:element ref="pqx:ControlSystemProduct" minOccurs="1"/>
602             <xs:element ref="pqx:ControlSystemSeries" minOccurs="0"/>
603             <xs:element ref="pqx:ControlSystemModel" minOccurs="0"/>
604             <xs:element ref="pqx:ControlSystemSoftwareVersion" minOccurs="0"/>
605             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
606         </xs:sequence>
607     </xs:complexType>
608 </xs:element>
609 <!--====>
610 <!--==== Control System Company Name >
611 <!--====>
612 <xs:element name="ControlSystemCompanyName" type="xs:string">
613     <xs:annotation>
614         <xs:documentation xml:lang="en">field that identifies the name of the
            company that manufactures the automated system used to capture quality data
            </xs:documentation>
615     </xs:annotation>
616 </xs:element>
617 <!--====>
618 <!--==== Control System Brand >

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619      <!--====          =====>
620      <xs:element name="ControlSystemBrand" type="xs:string">
621          <xs:annotation>
622              <xs:documentation xml:lang="en">field that identifies the brand name of the
                automated system used to capture quality data</xs:documentation>
623          </xs:annotation>
624      </xs:element>
625      <!--====          =====>
626      <!--==== Control System Product          =====>
627      <!--====          =====>
628      <xs:element name="ControlSystemProduct" type="xs:string">
629          <xs:annotation>
630              <xs:documentation xml:lang="en">field that provides the automated control
                system product identification</xs:documentation>
631          </xs:annotation>
632      </xs:element>
633      <!--====          =====>
634      <!--==== Control System Series          =====>
635      <!--====          =====>
636      <xs:element name="ControlSystemSeries" type="xs:string">
637          <xs:annotation>
638              <xs:documentation xml:lang="en">field that provides the automated control
                system series identification</xs:documentation>
639          </xs:annotation>
640      </xs:element>
641      <!--====          =====>
642      <!--==== Control System Model          =====>
643      <!--====          =====>
644      <xs:element name="ControlSystemModel" type="xs:string">
645          <xs:annotation>
646              <xs:documentation xml:lang="en">field that provides the automated control
                system model identification</xs:documentation>
647          </xs:annotation>
648      </xs:element>
649      <!--====          =====>
650      <!--==== Control System Software Version          =====>
651      <!--====          =====>
652      <xs:element name="ControlSystemSoftwareVersion" type="xs:string">
653          <xs:annotation>
654              <xs:documentation xml:lang="en">field that provides the automated control
                system software and version</xs:documentation>
655          </xs:annotation>
656      </xs:element>
657      <!-- ++++++
        -->
658      <!--====          =====>
659      <!--==== Sample Collection          =====>
660      <!--====          =====>
661      <xs:element name="SampleCollection">
662          <xs:annotation>
663              <xs:documentation xml:lang="en">set of fields that provide information
                about all instances of printed items that are measured, observed and
                reported on from a press run</xs:documentation>
664          </xs:annotation>
665          <xs:complexType>
666              <xs:sequence>
667                  <xs:element ref="pqx:Sample" minOccurs="1" maxOccurs="unbounded"/>
668              </xs:sequence>
669          </xs:complexType>
670      </xs:element>
671      <!--====          =====>
672      <!--==== Sample Model          =====>
673      <!--====          =====>
674      <xs:element name="Sample">
675          <xs:annotation>
676              <xs:documentation xml:lang="en">set of fields that carry information about

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        a selected item or items for which quality is observed and data is being
        reported</xs:documentation>
677     </xs:annotation>
678     <xs:complexType>
679         <xs:sequence>
680             <xs:element ref="pqx:SampleDescription" minOccurs="0"/>
681             <xs:choice minOccurs="1" maxOccurs="4">
682                 <xs:element ref="pqx:ColorReport"/>
683                 <xs:element ref="pqx:RegistrationReport"/>
684                 <xs:element ref="pqx:DefectReport"/>
685                 <xs:element ref="pqx:BarcodeReport"/>
686             </xs:choice>
687             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
688         </xs:sequence>
689     </xs:complexType>
690 </xs:element>
691 <!--====          =====>
692 <!--====          Sample Description          =====>
693 <!--====          =====>
694 <xs:element name="SampleDescription">
695     <xs:annotation>
696         <xs:documentation xml:lang="en">field that provides a description of how
        this sample was selected</xs:documentation>
697     </xs:annotation>
698     <xs:complexType>
699         <xs:sequence>
700             <xs:choice>
701                 <xs:element ref="pqx:RunPosition"/>
702                 <xs:element ref="pqx:SamplingTime"/>
703                 <xs:element ref="pqx:SamplingInterval"/>
704             </xs:choice>
705             <xs:element ref="pqx:ItemsPerSample" minOccurs="0"/>
706             <xs:element ref="pqx:MeasurementSide" minOccurs="0"/>
707         </xs:sequence>
708     </xs:complexType>
709 </xs:element>
710 <!--====          =====>
711 <!--====          Items per Sample          =====>
712 <!--====          =====>
713 <xs:element name="ItemsPerSample" type="xs:positiveInteger">
714     <xs:annotation>
715         <xs:documentation xml:lang="en">field that provides the number of
        contiguous items that make up this sample </xs:documentation>
716     </xs:annotation>
717 </xs:element>
718 <!--====          =====>
719 <!--====          Measurement Side          =====>
720 <!--====          =====>
721 <xs:element name="MeasurementSide">
722     <xs:annotation>
723         <xs:documentation xml:lang="en">field that provides an indication of from
        which side of a printed item a measurement or observation was taken
        </xs:documentation>
724     </xs:annotation>
725     <xs:complexType>
726         <xs:simpleContent>
727             <xs:extension base="pqx:one2twoType">
728                 <xs:attribute name="DisplayName" type="xs:NMTOKEN" use="required">
729                     <xs:annotation>
730                         <xs:documentation xml:lang="en">label or name of the
        measurement side such as "top" / "bottom" or "SideA" or
        "SideB"</xs:documentation>
731                     </xs:annotation>
732                 </xs:attribute>
733             </xs:extension>
734         </xs:simpleContent>

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735         </xs:complexType>
736     </xs:element>
737     <!--====          =====>
738     <!--====          Run Position          =====>
739     <!--====          =====>
740     <xs:element name="RunPosition">
741         <xs:annotation>
742             <xs:documentation xml:lang="en">set of fields that provides the position
              within a press run where a printed sample taken for print quality evaluation
            </xs:documentation>
743         </xs:annotation>
744         <xs:complexType>
745             <xs:attribute name="Roll" type="xs:positiveInteger">
746                 <xs:annotation>
747                     <xs:documentation xml:lang="en">field that provides a numerical
              designation for the roll of substrate from which a sample was taken
            </xs:documentation>
748                 </xs:annotation>
749             </xs:attribute>
750             <xs:attribute name="Meterage" type="pqx:meterageValueType" use="required">
751                 <xs:annotation>
752                     <xs:documentation xml:lang="en">field that provides a count
              indicator value for the location on a roll of substrate or a
              sequential number for the printed item within a press run where the
              sample was taken for evaluation</xs:documentation>
753                 </xs:annotation>
754             </xs:attribute>
755             <xs:attribute name="UoM" type="pqx:meterageUoMType" use="required">
756                 <xs:annotation>
757                     <xs:documentation xml:lang="en">field that provides the unit used
              for expressing the meterage for the press-run position
            </xs:documentation>
758                 </xs:annotation>
759             </xs:attribute>
760         </xs:complexType>
761     </xs:element>
762     <!--====          =====>
763     <!--====          Sampling Interval          =====>
764     <!--====          =====>
765     <xs:element name="SamplingInterval">
766         <xs:annotation>
767             <xs:documentation xml:lang="en">set of fields that provides the intervals
              press run that produced the printed samples from which print quality data
              was captured</xs:documentation>
768         </xs:annotation>
769         <xs:complexType>
770             <xs:sequence>
771                 <xs:element ref="pqx:SamplingDuration"/>
772                 <xs:element ref="pqx:SamplingFrequency"/>
773             </xs:sequence>
774         </xs:complexType>
775     </xs:element>
776     <!--====          =====>
777     <!--====          Sampling Duration          =====>
778     <!--====          =====>
779     <xs:element name="SamplingDuration">
780         <xs:annotation>
781             <xs:documentation xml:lang="en">set of fields that provide the time span in
              a press run when samples were taken</xs:documentation>
782         </xs:annotation>
783         <xs:complexType>
784             <xs:attribute name="LengthOfTime" type="xs:decimal" use="required">
785                 <xs:annotation>
786                     <xs:documentation xml:lang="en">field that provides the number of
              units f time during a press run when samples taken</xs:documentation>
787                 </xs:annotation>

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788         </xs:attribute>
789         <xs:attribute name="UnitOfTime" type="pqx:uoTimeType" use="required">
790             <xs:annotation>
791                 <xs:documentation xml:lang="en">field that provides the unit of
                    time used to measure when samples were taken</xs:documentation>
792             </xs:annotation>
793         </xs:attribute>
794     </xs:complexType>
795 </xs:element>
796 <!--====>
797 <!--====>      Sampling Frequency      <!--====>
798 <!--====>
799 <xs:element name="SamplingFrequency">
800     <xs:annotation>
801         <xs:documentation xml:lang="en">set of fields that provide the rate at
                    which samples were taken
802     </xs:documentation>
803     </xs:annotation>
804     <xs:complexType>
805         <xs:attribute name="Occurrence" type="xs:decimal" use="required">
806             <xs:annotation>
807                 <xs:documentation xml:lang="en">field that captures the number of
                    samples taken</xs:documentation>
808             </xs:annotation>
809         </xs:attribute>
810         <xs:attribute name="UnitOfTime" type="pqx:uoTimeType" use="required">
811             <xs:annotation>
812                 <xs:documentation xml:lang="en">Time Period: the unit of time when
                    samples were taken</xs:documentation>
813             </xs:annotation>
814         </xs:attribute>
815     </xs:complexType>
816 </xs:element>
817 <!--====>
818 <!--====>      Sampling Time      <!--====>
819 <!--====>
820 <xs:element name="SamplingTime">
821     <xs:annotation>
822         <xs:documentation xml:lang="en">set of fields that provide the time in an
                    ISO date/time format during a press run when a sample was taken
823     </xs:documentation>
824     </xs:annotation>
825     <xs:complexType>
826         <xs:attribute name="SampleStartTime" type="xs:dateTime" use="required">
827             <xs:annotation>
828                 <xs:documentation xml:lang="en">required attribute of SamplingTime
                    to capture the time when the first of a set of samples to be
                    reported was taken.</xs:documentation>
829             </xs:annotation>
830         </xs:attribute>
831         <xs:attribute name="SampleEndTime" type="xs:dateTime" use="required">
832             <xs:annotation>
833                 <xs:documentation xml:lang="en">required attribute of SamplingTime
                    to capture the time when the last of a set of samples to be
                    reported was taken.</xs:documentation>
834             </xs:annotation>
835         </xs:attribute>
836     </xs:complexType>
837 </xs:element>
838 <!-- ++++++>
839 <!--====>      Registration Report Block      <!--====>
840 <!--====>
841 <xs:element name="RegistrationReport">
842     <xs:annotation>
843         <xs:documentation xml:lang="en">set of fields that provide an account of

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844         the accuracy of the alignment of inks printed on a sample</xs:documentation>
845     </xs:annotation>
846     <xs:complexType>
847         <xs:sequence>
848             <xs:element ref="pqx:RegistrationSet" minOccurs="1" maxOccurs=
849                 "unbounded"/>
850         </xs:sequence>
851     </xs:complexType>
852 </xs:element>
853 <!--====>
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900 <!--====>

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901      <!--====                               =====>
902      <!--====      Registration Mark Type      =====>
903      <!--====                               =====>
904      <xs:element name="MarkType" type="xs:string">
905          <xs:annotation>
906              <xs:documentation xml:lang="en">field that provides a classification of a
          registration mark employed</xs:documentation>
907          </xs:annotation>
908      </xs:element>
909      <!-- ++++++                               =====>
910      <!--====                               =====>
911      <!--====      Registration Variance Report      =====>
912      <!--====                               =====>
913      <xs:element name="VarianceReport">
914          <xs:annotation>
915              <xs:documentation xml:lang="en">set of fields made up of reports that
          provide an account of the quality of print registration based on the offset
          of each printed ink from one another.</xs:documentation>
916          </xs:annotation>
917          <xs:complexType>
918              <xs:choice>
919                  <xs:element ref="pqx:ObservedMax"/>
920                  <xs:element ref="pqx:MeasuredMax"/>
921              </xs:choice>
922          </xs:complexType>
923      </xs:element>
924      <!--====                               =====>
925      <!--====      Observed Maximum Variance      =====>
926      <!--====                               =====>
927      <xs:element name="ObservedMax">
928          <xs:annotation>
929              <xs:documentation xml:lang="en">set of fields that provide the observed
          maximum registration variance of all printed inks for a printed sample
          </xs:documentation>
930          </xs:annotation>
931          <xs:complexType>
932              <xs:sequence>
933                  <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
934                  <xs:element ref="pqx:VarianceDescription"/>
935                  <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
936              </xs:sequence>
937          </xs:complexType>
938      </xs:element>
939      <!--====                               =====>
940      <!--====      Variance Description      =====>
941      <!--====                               =====>
942      <xs:element name="VarianceDescription" type="xs:string">
943          <xs:annotation>
944              <xs:documentation xml:lang="en">field that provides a visual account of the
          alignment of a registration mark on the printed sample</xs:documentation>
945          </xs:annotation>
946      </xs:element>
947      <!--====                               =====>
948      <!--====      Measured Maximum Variance      =====>
949      <!--====                               =====>
950      <xs:element name="MeasuredMax">
951          <xs:annotation>
952              <xs:documentation xml:lang="en">set of fields that provide the measured
          maximum registration variance of all printed inks for a printed sample
          </xs:documentation>
953          </xs:annotation>
954          <xs:complexType>
955              <xs:sequence>
956                  <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
957                  <xs:element ref="pqx:AveragingMethod" minOccurs="0"/>
958                  <xs:choice minOccurs="0">

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959         <xs:element ref="pqx:ItemsPerAverage"/>
960         <xs:element ref="pqx:PatchesPerAverage"/>
961     </xs:choice>
962     <xs:element ref="pqx:UoM" minOccurs="1"/>
963     <xs:element ref="pqx:XMaxOffset" minOccurs="1"/>
964     <xs:element ref="pqx:YMaxOffset" minOccurs="1"/>
965     <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
966 </xs:sequence>
967 </xs:complexType>
968 </xs:element>
969 <!--====>
970 <!--==== Averaging Method >
971 <!--====>
972 <xs:element name="AveragingMethod" type="pqx:averagingMethodType">
973     <xs:annotation>
974         <xs:documentation xml:lang="en">field that describes the technique used to
          generate reporting values for this PQX report</xs:documentation>
975     </xs:annotation>
976 </xs:element>
977 <!--====>
978 <!--==== Items per Average >
979 <!--====>
980 <xs:element name="ItemsPerAverage" type="xs:nonNegativeInteger">
981     <xs:annotation>
982         <xs:documentation xml:lang="en">field that provides a way to specify the
          number of item sample measurements were averaged for the same patch to
          generate a single reporting value</xs:documentation>
983     </xs:annotation>
984 </xs:element>
985 <!--====>
986 <!--==== Patches per Average >
987 <!--====>
988 <xs:element name="PatchesPerAverage" type="xs:nonNegativeInteger">
989     <xs:annotation>
990         <xs:documentation xml:lang="en">field that provides the number of
          measurements for the same patch on a single item that were averaged to
          generate a single reporting value for this PQX report</xs:documentation>
991     </xs:annotation>
992 </xs:element>
993 <!--====>
994 <!--==== Registration UoM >
995 <!--====>
996 <xs:element name="UoM" type="pqx:linearUoMType">
997     <xs:annotation>
998         <xs:documentation xml:lang="en">field that provides the physical linear
          unit used to measure registration positioning</xs:documentation>
999     </xs:annotation>
1000 </xs:element>
1001 <!--====>
1002 <!--==== X-Maximum Offset >
1003 <!--====>
1004 <xs:element name="XMaxOffset" type="xs:decimal">
1005     <xs:annotation>
1006         <xs:documentation xml:lang="en">field of a registration Maximum Variance
          report that specifies the maximum variance offset across the X (horizontal)
          axis expressed in the registration unit of measure</xs:documentation>
1007     </xs:annotation>
1008 </xs:element>
1009 <!--====>
1010 <!--==== Y-Maximum Offset >
1011 <!--====>
1012 <xs:element name="YMaxOffset" type="xs:decimal">
1013     <xs:annotation>
1014         <xs:documentation xml:lang="en">field of a maximum variance registration
          report that specifies the maximum variance offset across the Y (vertical)
          axis expressed in the registration unit of measure</xs:documentation>

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1015         </xs:annotation>
1016     </xs:element>
1017     <!-- ++++++ =====>
1018     <!--==== =====>
1019     <!--==== Registration Channel Report =====>
1020     <!--==== =====>
1021     <xs:element name="ChannelReport">
1022         <xs:annotation>
1023             <xs:documentation xml:lang="en">set of fields that provide an account of
the quality of print registration based on the offset of each printed ink
from a printed reference ink</xs:documentation>
1024         </xs:annotation>
1025         <xs:complexType>
1026             <xs:choice>
1027                 <xs:element ref="pqx:ObservedChannel" maxOccurs="unbounded"/>
1028                 <xs:element ref="pqx:MeasuredChannel" maxOccurs="unbounded"/>
1029             </xs:choice>
1030         </xs:complexType>
1031     </xs:element>
1032     <!--==== =====>
1033     <!--==== Observed Channel Report =====>
1034     <!--==== =====>
1035     <xs:element name="ObservedChannel">
1036         <xs:annotation>
1037             <xs:documentation xml:lang="en">set of fields that provide the observed
maximum registration variance of all printed inks relative to a reference
ink channel for a printed sample</xs:documentation>
1038         </xs:annotation>
1039         <xs:complexType>
1040             <xs:sequence>
1041                 <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
1042                 <xs:element ref="pqx:ReferenceInkIdLink" minOccurs="1"/>
1043                 <xs:element ref="pqx:InkIdLink" minOccurs="1"/>
1044                 <xs:element ref="pqx:AlignmentDescription" minOccurs="1"/>
1045                 <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1046             </xs:sequence>
1047         </xs:complexType>
1048     </xs:element>
1049     <!--==== =====>
1050     <!--==== Reference Ink Id-Link =====>
1051     <!--==== =====>
1052     <xs:element name="ReferenceInkIdLink" type="xs:NCName">
1053         <xs:annotation>
1054             <xs:documentation xml:lang="en">field that provides a connection to the ink
that will serve as the point of reference to which the alignment of all
other ink channels will be compared for channel-based registration reporting
</xs:documentation>
1055         </xs:annotation>
1056     </xs:element>
1057     <!--==== =====>
1058     <!--==== Ink Id-Link =====>
1059     <!--==== =====>
1060     <xs:element name="InkIdLink" type="xs:NCName">
1061         <xs:annotation>
1062             <xs:documentation xml:lang="en">field that provides a connection to the
definition of the ink</xs:documentation>
1063         </xs:annotation>
1064     </xs:element>
1065     <!--==== =====>
1066     <!--==== Channel Description =====>
1067     <!--==== =====>
1068     <xs:element name="AlignmentDescription" type="xs:string">
1069         <xs:annotation>
1070             <xs:documentation xml:lang="en">field that provides an account of the
registration alignment of a printed ink on the sample that comes from a
visual observation of the registration mark or simply from observing the

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1071         printed sample</xs:documentation>
1072     </xs:annotation>
1073 </xs:element>
1074 <!--====>
1075 <!--==== Measured Channel Report >
1076 <!--====>
1077 <xs:element name="MeasuredChannel">
1078     <xs:annotation>
1079         <xs:documentation xml:lang="en">set of fields that provide the measured
1080         maximum registration variance of all printed inks relative to a reference
1081         ink channel for a printed sample</xs:documentation>
1082     </xs:annotation>
1083     <xs:complexType>
1084         <xs:sequence>
1085             <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
1086             <xs:element ref="pqx:ReferenceInkIdLink"/>
1087             <xs:element ref="pqx:InkIdLink"/>
1088             <xs:element ref="pqx:AveragingMethod" minOccurs="0"/>
1089             <xs:element ref="pqx:ItemsPerAverage" minOccurs="0"/>
1090             <xs:element ref="pqx:UoM"/>
1091             <xs:element ref="pqx:XPositionOffset"/>
1092             <xs:element ref="pqx:YPositionOffset"/>
1093             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1094         </xs:sequence>
1095     </xs:complexType>
1096 </xs:element>
1097 <!--====>
1098 <!--==== X Position Offset >
1099 <!--====>
1100 <xs:element name="XPositionOffset" type="xs:decimal">
1101     <xs:annotation>
1102         <xs:documentation xml:lang="en">field that provides a numeric value in the
1103         registration unit of measure that expresses the X-axis (horizontal)
1104         position from the specified ink channel reference</xs:documentation>
1105     </xs:annotation>
1106 </xs:element>
1107 <!--====>
1108 <!--==== Y Position Offset >
1109 <!--====>
1110 <xs:element name="YPositionOffset" type="xs:decimal">
1111     <xs:annotation>
1112         <xs:documentation xml:lang="en">field that provides a numeric value in the
1113         registration unit of measure that expresses the Y-axis (vertical) alignment
1114         from the specified ink channel reference</xs:documentation>
1115     </xs:annotation>
1116 </xs:element>
1117 <!-- ++++++>
1118 <!--====>
1119 <!--==== Defect Report >
1120 <!--====>
1121 <xs:element name="DefectReport">
1122     <xs:annotation>
1123         <xs:documentation xml:lang="en">set of fields that provide an account of
1124         the print defects on a printed sample</xs:documentation>
1125     </xs:annotation>
1126     <xs:complexType>
1127         <xs:sequence>
1128             <xs:element ref="pqx:OverallVisualAppearance" minOccurs="0"/>
1129             <xs:element ref="pqx:DefectInspectionPercentage" minOccurs="0"/>
1130             <xs:element ref="pqx:DefectSet" maxOccurs="unbounded"/>
1131         </xs:sequence>
1132     </xs:complexType>
1133 </xs:element>
1134 <!--====>
1135 <!--==== Overall Visual Appearance >
1136 <!--====>

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1129 <xs:element name="OverallVisualAppearance" type="xs:string">
1130   <xs:annotation>
1131     <xs:documentation xml:lang="en">field of the defect report that provides a
        comment about the overall visual appearance of images printed for the
        quality press run</xs:documentation>
1132   </xs:annotation>
1133 </xs:element>
1134 <!--====>
1135 <!--==== Defect Inspection Percentage >
1136 <!--====>
1137 <xs:element name="DefectInspectionPercentage" type="pqx:percentType">
1138   <xs:annotation>
1139     <xs:documentation xml:lang="en">field that provides the percent of defect
        inspections taken throughout the press run and reflected in the defect data
        for this PQX report</xs:documentation>
1140   </xs:annotation>
1141 </xs:element>
1142 <!--==== ++++++>
1143 <!--====>
1144 <!--==== Defect Entry >
1145 <!--====>
1146 <xs:element name="DefectSet">
1147   <xs:annotation>
1148     <xs:documentation xml:lang="en">set of fields that provide quality data
        about a defect at a specified position on a selected customer item
        </xs:documentation>
1149   </xs:annotation>
1150   <xs:complexType>
1151     <xs:sequence>
1152       <xs:element ref="pqx:BasisOfReference"/>
1153       <xs:element ref="pqx:CustomerItemIdLink"/>
1154       <xs:element ref="pqx:PositionOnSample"/>
1155       <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
1156       <xs:choice>
1157         <xs:element ref="pqx:DefectData"/>
1158         <xs:element ref="pqx:NoDefectFound"/>
1159       </xs:choice>
1160       <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1161     </xs:sequence>
1162   </xs:complexType>
1163 </xs:element>
1164 <!--====>
1165 <!--==== Basis of Reference >
1166 <!--====>
1167 <xs:element name="BasisOfReference" type="pqx:referenceType">
1168   <xs:annotation>
1169     <xs:documentation xml:lang="en">field that specifies the acceptable item
        used for comparison a printed item to determine presence of a print defect
        </xs:documentation>
1170   </xs:annotation>
1171 </xs:element>
1172 <!--====>
1173 <!--==== Defect Data >
1174 <!--====>
1175 <xs:element name="DefectData">
1176   <xs:annotation>
1177     <xs:documentation xml:lang="en">field that provides quality data about a
        defect found on a printed item</xs:documentation>
1178   </xs:annotation>
1179   <xs:complexType>
1180     <xs:sequence>
1181       <xs:element ref="pqx:DefectName"/>
1182       <xs:element ref="pqx:DefectSeverity"/>
1183       <xs:element ref="pqx:DefectCategory" minOccurs="0"/>
1184       <xs:element ref="pqx:DefectSize" minOccurs="0"/>
1185       <xs:element ref="pqx:DefectDescription" minOccurs="0"/>

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1186         <xs:element ref="pqx:DefectImageIdLink" minOccurs="0"/>
1187         <xs:element ref="pqx:DefectCount" minOccurs="0"/>
1188         <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1189     </xs:sequence>
1190 </xs:complexType>
1191 </xs:element>
1192 <!--==== <!--====>
1193 <!--==== Defect Name <!--====>
1194 <!--==== <!--====>
1195 <xs:element name="DefectName" type="pqx:defectNameType">
1196     <xs:annotation>
1197         <xs:documentation xml:lang="en">field that provides a first level of
            categorization for a print flaw</xs:documentation>
1198     </xs:annotation>
1199 </xs:element>
1200 <!--==== <!--====>
1201 <!--==== Defect Severity <!--====>
1202 <!--==== <!--====>
1203 <xs:element name="DefectSeverity">
1204     <xs:annotation>
1205         <xs:documentation xml:lang="en">field that provides values for the degree
            or seriousness of a print flaw on a scale of 1 to 10 with 1 being the least
            severe and 10 being the most severe</xs:documentation>
1206     </xs:annotation>
1207     <xs:complexType>
1208         <xs:simpleContent>
1209             <xs:extension base="pqx:one2tenType">
1210                 <xs:attribute name="DisplayName" type="xs:NMTOKEN">
1211                     <xs:annotation>
1212                         <xs:documentation xml:lang="en">label or name of the defect
                            severity such as "moderate" "extreme" or "slight",
                            typically employing a nomenclature provided by the print
                            buyer</xs:documentation>
1213                     </xs:annotation>
1214                 </xs:attribute>
1215             </xs:extension>
1216         </xs:simpleContent>
1217     </xs:complexType>
1218 </xs:element>
1219 <!--==== <!--====>
1220 <!--==== Defect Size <!--====>
1221 <!--==== <!--====>
1222 <xs:element name="DefectSize">
1223     <xs:annotation>
1224         <xs:documentation xml:lang="en">set of fields that provides data that
            documents the height/width or area of a defect</xs:documentation>
1225     </xs:annotation>
1226     <xs:complexType>
1227         <xs:sequence>
1228             <xs:element ref="pqx:UoM"/>
1229             <xs:choice>
1230                 <xs:sequence>
1231                     <xs:element ref="pqx:DefectXMeasure"/>
1232                     <xs:element ref="pqx:DefectYMeasure"/>
1233                 </xs:sequence>
1234                 <xs:element ref="pqx:DefectArea"/>
1235             </xs:choice>
1236         </xs:sequence>
1237     </xs:complexType>
1238 </xs:element>
1239 <!--==== ++++++ <!--====>
1240 <!--==== <!--====>
1241 <!--==== Defect X Measure <!--====>
1242 <!--==== <!--====>
1243 <xs:element name="DefectXMeasure" type="xs:decimal">
1244     <xs:annotation>

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1245         <xs:documentation xml:lang="en">field that provides the width of a defect
            along the X (horizontal) axis in the defect unit of measure
            </xs:documentation>
1246     </xs:annotation>
1247 </xs:element>
1248 <!--==== ++++++===== <---->
1249 <!--==== <---->
1250 <!--==== Defect Y Measure <---->
1251 <!--==== <---->
1252 <xs:element name="DefectYMeasure" type="xs:decimal">
1253     <xs:annotation>
1254         <xs:documentation xml:lang="en">field that provides the height of a defect
            along the Y (vertical) axis in the defect unit of measure</xs:documentation>
1255     </xs:annotation>
1256 </xs:element>
1257 <!--==== <---->
1258 <!--==== Defect Area <---->
1259 <!--==== <---->
1260 <xs:element name="DefectArea" type="xs:decimal">
1261     <xs:annotation>
1262         <xs:documentation xml:lang="en">field that specifies the area (or average
            area) of a defect</xs:documentation>
1263     </xs:annotation>
1264 </xs:element>
1265 <!--==== <---->
1266 <!--==== Defect Description <---->
1267 <!--==== <---->
1268 <xs:element name="DefectDescription" type="xs:string">
1269     <xs:annotation>
1270         <xs:documentation xml:lang="en">field that captures an account of the
            nature of the defect</xs:documentation>
1271     </xs:annotation>
1272 </xs:element>
1273 <!--==== <---->
1274 <!--==== Defect Category <---->
1275 <!--==== <---->
1276 <xs:element name="DefectCategory" type="xs:string">
1277     <xs:annotation>
1278         <xs:documentation xml:lang="en">field that provides a second level
            classification for print defect types</xs:documentation>
1279     </xs:annotation>
1280 </xs:element>
1281 <!--==== <---->
1282 <!--==== Defect Image Link <---->
1283 <!--==== <---->
1284 <xs:element name="DefectImageIdLink" type="xs:anyURI">
1285     <xs:annotation>
1286         <xs:documentation xml:lang="en">field that provides a connection to the
            unique identifier for an image of the defect so it may be retrieved from
            the defect image data block</xs:documentation>
1287     </xs:annotation>
1288 </xs:element>
1289 <!--==== <---->
1290 <!--==== Defect Count <---->
1291 <!--==== <---->
1292 <xs:element name="DefectCount" type="xs:positiveInteger">
1293     <xs:annotation>
1294         <xs:documentation xml:lang="en">field that provides the count or frequency
            for a defect being reported in this defect set</xs:documentation>
1295     </xs:annotation>
1296 </xs:element>
1297 <!--==== <---->
1298 <!--==== No Defect Found <---->
1299 <!--==== <---->
1300 <xs:element name="NoDefectFound">
1301     <xs:annotation>

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1302         <xs:documentation xml:lang="en">field that indicates that no defects were
1303         found for a printed customer item</xs:documentation>
1304     </xs:annotation>
1305     <xs:complexType/>
1306 </xs:element>
1307 <!-- ++++++ -->
1308 <!--====>
1309 <!--==== Barcode Report >
1310 <!--====>
1311 <xs:element name="BarcodeReport">
1312     <xs:annotation>
1313         <xs:documentation xml:lang="en">set of fields that provide an account of
1314         the quality of the printed barcode on a sample</xs:documentation>
1315     </xs:annotation>
1316     <xs:complexType>
1317         <xs:sequence>
1318             <xs:element ref="pqx:VerificationSet" maxOccurs="unbounded"/>
1319         </xs:sequence>
1320     </xs:complexType>
1321 </xs:element>
1322 <!-- ++++++ -->
1323 <!--====>
1324 <!--==== Barcode VerificationSet >
1325 <!--====>
1326 <xs:element name="VerificationSet">
1327     <xs:annotation>
1328         <xs:documentation xml:lang="en">set of fields that carry the barcode
1329         reporting for a specific position on a printed item</xs:documentation>
1330     </xs:annotation>
1331     <xs:complexType>
1332         <xs:sequence>
1333             <xs:element ref="pqx:CustomerItemIdLink"/>
1334             <xs:element ref="pqx:PositionOnSample"/>
1335             <xs:choice>
1336                 <xs:element ref="pqx:Barcode1DEntry"/>
1337                 <xs:element ref="pqx:Barcode2DEntry"/>
1338             </xs:choice>
1339             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1340         </xs:sequence>
1341     </xs:complexType>
1342 </xs:element>
1343 <!--==== ++++++ -->
1344 <!--====>
1345 <!--==== Barcode Entry 1D >
1346 <!--====>
1347 <xs:element name="Barcode1DEntry">
1348     <xs:annotation>
1349         <xs:documentation xml:lang="en">set of fields in the barcode report that
1350         contains quality data about a linear barcode</xs:documentation>
1351     </xs:annotation>
1352     <xs:complexType>
1353         <xs:sequence>
1354             <xs:element ref="pqx:BarcodeSymbology"/>
1355             <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
1356             <xs:element ref="pqx:ISO1DVerification" minOccurs="1"/>
1357             <xs:element ref="pqx:Traditional1DVerification" minOccurs="0"/>
1358             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1359         </xs:sequence>
1360     </xs:complexType>
1361 </xs:element>
1362 <!--==== ++++++ -->
1363 <!--====>
1364 <!--==== ISO Verification >
1365 <!--====>
1366 <xs:element name="ISO1DVerification">
1367     <xs:annotation>

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1364         <xs:documentation xml:lang="en">set of fields in the barcode report that
            contain ISO quality data scores for the print quality of a linear barcode.
            </xs:documentation>
1365     </xs:annotation>
1366     <xs:complexType>
1367         <xs:sequence>
1368             <xs:element ref="pqx:OverallSymbolGrade"/>
1369             <xs:element ref="pqx:MinimumReflectance"/>
1370             <xs:element ref="pqx:SymbolContrast"/>
1371             <xs:element ref="pqx:MinimumEdgeContrast"/>
1372             <xs:element ref="pqx:Modulation"/>
1373             <xs:element ref="pqx:BarcodeDefects"/>
1374             <xs:element ref="pqx:Decodability"/>
1375             <xs:element ref="pqx:Decode"/>
1376         </xs:sequence>
1377     </xs:complexType>
1378 </xs:element>
1379 <!--=== Overall Symbol Grade ===-->
1380 <xs:element name="OverallSymbolGrade" type="xs:string">
1381     <xs:annotation>
1382         <xs:documentation xml:lang="en">field of an ISO barcode verification that
            provides an overall grade for the print quality of a barcode
1383         </xs:documentation>
1384     </xs:annotation>
1385 </xs:element>
1386 <!--=== Minimum Reflectance ===-->
1387 <xs:element name="MinimumReflectance">
1388     <xs:annotation>
1389         <xs:documentation xml:lang="en">field of the barcode report that provides
            minimum amount of reflective difference between the printed barcode and the
            background
1390         </xs:documentation>
1391     </xs:annotation>
1392     <xs:complexType>
1393         <xs:attributeGroup ref="pqx:barcodeRankType"/>
1394     </xs:complexType>
1395 </xs:element>
1396 <!--=== Symbol Contrast ===-->
1397 <xs:element name="SymbolContrast">
1398     <xs:annotation>
1399         <xs:documentation xml:lang="en">field of the barcode report that grades the
            percent of maximum reflectance (Rmax) minus the percent of minimum
            reflectance (rMin)</xs:documentation>
1400     </xs:annotation>
1401     <xs:complexType>
1402         <xs:attributeGroup ref="pqx:barcodeRankType"/>
1403     </xs:complexType>
1404 </xs:element>
1405 <!--=== Minimum Edge Contrast ===-->
1406 <xs:element name="MinimumEdgeContrast">
1407     <xs:annotation>
1408         <xs:documentation xml:lang="en">field of a barcode report that grades the
            percent of contrast difference in every transition, from light to dark and
            back to light, across the barcode</xs:documentation>
1409     </xs:annotation>
1410     <xs:complexType>
1411         <xs:attributeGroup ref="pqx:barcodeRankType"/>
1412     </xs:complexType>
1413 </xs:element>
1414 <!--=== Modulation ===-->
1415 <xs:element name="Modulation">
1416     <xs:annotation>
1417         <xs:documentation xml:lang="en">field of a barcode report that documents
            how a scanner "sees" wide elements (bars or spaces) in relationship to
            narrow elements or the consistency of the reflectance of dark to light
            areas throughout the barcode</xs:documentation>

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1418         </xs:annotation>
1419         <xs:complexType>
1420             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1421         </xs:complexType>
1422     </xs:element>
1423     <!--=== Barcode Defects ===-->
1424     <xs:element name="BarcodeDefects">
1425         <xs:annotation>
1426             <xs:documentation xml:lang="en">field of a barcode report that captures the
                percent of voids in the bars or artefacts in the spaces between bars
                resulting in an inability to verify the barcode </xs:documentation>
1427         </xs:annotation>
1428         <xs:complexType>
1429             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1430         </xs:complexType>
1431     </xs:element>
1432     <!--=== Decodability ===-->
1433     <xs:element name="Decodability">
1434         <xs:annotation>
1435             <xs:documentation xml:lang="en">field of a barcode report that indicates
                the measure of how easily a scanner can decode the barcode</xs:documentation>
1436         </xs:annotation>
1437         <xs:complexType>
1438             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1439         </xs:complexType>
1440     </xs:element>
1441     <!--=== Decode ===-->
1442     <xs:element name="Decode" type="pqx:passFailType">
1443         <xs:annotation>
1444             <xs:documentation xml:lang="en">field of a barcode report that provides a
                pass/fail statement about whether the bars and spaces in a barcode
                represent the intended characters</xs:documentation>
1445         </xs:annotation>
1446     </xs:element>
1447     <!--=== Traditional 1D Verification ===-->
1448     <!--=== Traditional 1D Verification ===-->
1449     <!--=== Traditional 1D Verification ===-->
1450     <xs:element name="Traditional1DVerification">
1451         <xs:annotation>
1452             <xs:documentation xml:lang="en">set of fields in the linear barcode report
                that contains traditional general, or ungraded, quality data scores based
                on width measurements of bars and spaces compared to ideal values for the
                print quality of a linear barcode</xs:documentation>
1453         </xs:annotation>
1454         <xs:complexType>
1455             <xs:sequence>
1456                 <xs:element ref="pqx:MinimumReflectance" minOccurs="0"/>
1457                 <xs:element ref="pqx:MaximumReflectance" minOccurs="0"/>
1458                 <xs:element ref="pqx:GlobalThreshold" minOccurs="0"/>
1459                 <xs:element ref="pqx:BarcodeDefects" minOccurs="0"/>
1460                 <xs:element ref="pqx:AverageBarGain" minOccurs="0"/>
1461                 <xs:element ref="pqx:PrintContrastSignal" minOccurs="0"/>
1462                 <xs:element ref="pqx:LowestScanGrade" minOccurs="0"/>
1463                 <xs:element ref="pqx:QuietZone" minOccurs="0"/>
1464                 <xs:element ref="pqx:LeftMargin" minOccurs="0"/>
1465                 <xs:element ref="pqx:RightMargin" minOccurs="0"/>
1466                 <xs:element ref="pqx:CheckCharacter" minOccurs="0"/>
1467                 <xs:element ref="pqx:Aperture" minOccurs="0"/>
1468                 <xs:element ref="pqx:Magnification" minOccurs="0"/>
1469                 <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1470             </xs:sequence>
1471         </xs:complexType>
1472     </xs:element>
1473     <!--=== Maximum Reflectance ===-->
1474     <!--=== Maximum Reflectance ===-->
1475     <!--=== Maximum Reflectance ===-->

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1476 <xs:element name="MaximumReflectance" type="pqx:percentType">
1477   <xs:annotation>
1478     <xs:documentation xml:lang="en">field of a barcode report that provides the
        maximum reflective difference between the printed barcode and the background
        </xs:documentation>
1479   </xs:annotation>
1480 </xs:element>
1481 <!--====>
1482 <!--==== Global Threshold >
1483 <!--====>
1484 <xs:element name="GlobalThreshold" type="pqx:percentType">
1485   <xs:annotation>
1486     <xs:documentation xml:lang="en">field of the barcode report entry that
        captures the point half way between the highest detected reflectance or
        Rmax value and the lowest detected reflectance or Rmin value where the
        actual decoding of a barcode takes place </xs:documentation>
1487   </xs:annotation>
1488 </xs:element>
1489 <!--====>
1490 <!--==== Average Bar Gain >
1491 <!--====>
1492 <xs:element name="AverageBarGain" type="pqx:percentType">
1493   <xs:annotation>
1494     <xs:documentation xml:lang="en">field of a barcode report that indicates
        the amount of physical spreading of a printed bar due to ink wicking and/or
        impression force or pressure</xs:documentation>
1495   </xs:annotation>
1496 </xs:element>
1497 <!--====>
1498 <!--==== Print Contrast Signal >
1499 <!--====>
1500 <xs:element name="PrintContrastSignal" type="pqx:percentType">
1501   <xs:annotation>
1502     <xs:documentation xml:lang="en">field of a barcode report that expresses
        the ratio of the background (space) reflectance minus the bar reflectance
        to the background (space) reflectance as a percentage</xs:documentation>
1503   </xs:annotation>
1504 </xs:element>
1505 <!--====>
1506 <!--==== Lowest Scan Grade >
1507 <!--====>
1508 <xs:element name="LowestScanGrade" type="pqx:percentType">
1509   <xs:annotation>
1510     <xs:documentation xml:lang="en">field of a barcode report that expresses
        the lowest scan reflectance profile grade measured where the scan
        reflectance profile grade is the lowest grade of minimum reflectance,
        minimum edge contrast, symbol contrast, modulation, defects, decodability
        and decode</xs:documentation>
1511   </xs:annotation>
1512 </xs:element>
1513 <!--====>
1514 <!--==== Quiet Zone >
1515 <!--====>
1516 <xs:element name="QuietZone" type="xs:string">
1517   <xs:annotation>
1518     <xs:documentation xml:lang="en">field of a barcode report that captures
        damage to the required minimum blank space preceding (left margin) and
        trailing (right margin) of a barcode</xs:documentation>
1519   </xs:annotation>
1520 </xs:element>
1521 <!--====>
1522 <!--==== Left Margin >
1523 <!--====>
1524 <xs:element name="LeftMargin" type="xs:string">
1525   <xs:annotation>
1526     <xs:documentation xml:lang="en">field of a barcode report that expresses

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1527         the presence of a minimum blank space preceding a barcode</xs:documentation>
1528     </xs:annotation>
1529 </xs:element>
1529 <!--====          =====>
1530 <!--====      Right Margin          =====>
1531 <!--====          =====>
1532 <xs:element name="RightMargin" type="xs:string">
1533     <xs:annotation>
1534         <xs:documentation xml:lang="en">field of a barcode report that expresses
1535             the presence of a minimum blank space trailing a barcode</xs:documentation>
1536     </xs:annotation>
1537 </xs:element>
1537 <!--====          =====>
1538 <!--====      Check Character          =====>
1539 <!--====          =====>
1540 <xs:element name="CheckCharacter" type="xs:string">
1541     <xs:annotation>
1542         <xs:documentation xml:lang="en">field of a barcode report that expresses
1543             the presence (where applicable) of a correctly calculated security digit
1544             added to prevent undetected errors</xs:documentation>
1545     </xs:annotation>
1546 </xs:element>
1545 <!--====          =====>
1546 <!--====      Aperture          =====>
1547 <!--====          =====>
1548 <xs:element name="Aperture">
1549     <xs:annotation>
1550         <xs:documentation xml:lang="en">field of a barcode report that expresses
1551             the diameter of the circular opening on a verifier that provides the field
1552             of view for barcode verification
1553         </xs:documentation>
1554     </xs:annotation>
1555     <xs:complexType>
1556         <xs:simpleContent>
1557             <xs:extension base="xs:decimal">
1558                 <xs:attribute name="UoM" type="pqx:linearUoMType" use="required">
1559                     <xs:annotation>
1560                         <xs:documentation xml:lang="en">aperture unit of measure
1561                             such as "mil" or "mm".</xs:documentation>
1562                     </xs:annotation>
1563                 </xs:attribute>
1564             </xs:extension>
1565         </xs:simpleContent>
1566     </xs:complexType>
1567 </xs:element>
1565 <!--====          =====>
1566 <!--====      Magnificication          =====>
1567 <!--====          =====>
1568 <xs:element name="Magnification" type="xs:string">
1569     <xs:annotation>
1570         <xs:documentation xml:lang="en">field of a barcode report that expresses
1571             the factor used to vary the nominal size of each barcode to ensure it is
1572             scannable</xs:documentation>
1573     </xs:annotation>
1574 </xs:element>
1573 <!--====          =====>
1574 <!--====      Barcode Symbology          =====>
1575 <!--====          =====>
1576 <xs:element name="BarcodeSymbology" type="pqx:barcodeSymbolType">
1577     <xs:annotation>
1578         <xs:documentation xml:lang="en">field that provides a classification of a
1579             barcode image</xs:documentation>
1580     </xs:annotation>
1581 </xs:element>
1581 <!--====          =====>
1582 <!--====          =====>

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1583 <!--==== =====>
1584 <!--==== ++++++ =====>
1585 <!--==== Barcode 2D Entry =====>
1586 <!--==== ++++++ =====>
1587 <xs:element name="Barcode2DEntry">
1588     <xs:annotation>
1589         <xs:documentation xml:lang="en">set of fields in the barcode report that
1590             contains quality data about a two-dimensional barcode</xs:documentation>
1591     </xs:annotation>
1592     <xs:complexType>
1593         <xs:sequence>
1594             <xs:element ref="pqx:BarcodeSymbology"/>
1595             <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
1596             <xs:element ref="pqx:Codewords" minOccurs="0"/>
1597             <xs:element ref="pqx:ISO2DVerification"/>
1598             <xs:element ref="pqx:FPDDetails" minOccurs="0"/>
1599             <xs:element ref="pqx:Traditional2DVerification" minOccurs="0"/>
1600             <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1601         </xs:sequence>
1602     </xs:complexType>
1603 </xs:element>
1604 <!--==== =====>
1605 <!--==== ISO Graded Parameters =====>
1606 <!--==== =====>
1607 <xs:element name="ISO2DVerification">
1608     <xs:annotation>
1609         <xs:documentation xml:lang="en">set of fields in the barcode report that
1610             contain ISO quality data scores for the print quality of a two-dimensional
1611             barcode. </xs:documentation>
1612     </xs:annotation>
1613     <xs:complexType>
1614         <xs:sequence>
1615             <xs:element ref="pqx:OverallSymbolGrade"/>
1616             <xs:element ref="pqx:MinimumReflectance" minOccurs="0"/>
1617             <xs:element ref="pqx:SymbolContrast"/>
1618             <xs:element ref="pqx:MinimumEdgeContrast" minOccurs="0"/>
1619             <xs:element ref="pqx:Modulation"/>
1620             <xs:element ref="pqx:BarcodeDefects" minOccurs="0"/>
1621             <xs:element ref="pqx:Decodability" minOccurs="0"/>
1622             <xs:element ref="pqx:UnusedErrorCorrection"/>
1623             <xs:element ref="pqx:CodewordYield" minOccurs="0"/>
1624             <xs:element ref="pqx:GridNonuniformity"/>
1625             <xs:element ref="pqx:AxialNonuniformity"/>
1626             <xs:element ref="pqx:FixedPatternDamage"/>
1627         </xs:sequence>
1628     </xs:complexType>
1629 </xs:element>
1630 <!--==== =====>
1631 <!--==== Traditional 2D Verification =====>
1632 <!--==== =====>
1633 <xs:element name="Traditional2DVerification">
1634     <xs:annotation>
1635         <xs:documentation xml:lang="en">set of fields in the two-dimensional
1636             barcode report that contains traditional general, or ungraded quality data
1637             scores included to provide greater information and detail about barcode
1638             quality</xs:documentation>
1639     </xs:annotation>
1640     <xs:complexType>
1641         <xs:sequence>
1642             <xs:element ref="pqx:MatrixSize" minOccurs="0"/>
1643             <xs:element ref="pqx:NominalXDimension" minOccurs="0"/>
1644             <xs:element ref="pqx:ContrastUniformity" minOccurs="0"/>
1645             <xs:element ref="pqx:PrintGrowth" minOccurs="0"/>

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1643         <xs:element ref="pqx:HorizontalBWG" minOccurs="0"/>
1644         <xs:element ref="pqx:VerticalBWG" minOccurs="0"/>
1645         <xs:element ref="pqx:EncodedCharacterCount" minOccurs="0"/>
1646         <xs:element ref="pqx:DataCodewordCount" minOccurs="0"/>
1647         <xs:element ref="pqx:TotalCodewordCount" minOccurs="0"/>
1648         <xs:element ref="pqx:ErrorCapacityUsed" minOccurs="0"/>
1649         <xs:element ref="pqx:ErrorCorrectionBudget" minOccurs="0"/>
1650         <xs:element ref="pqx:ErrorCorrectionUse" minOccurs="0"/>
1651         <xs:element ref="pqx:ErrorsCorrected" minOccurs="0"/>
1652         <xs:element ref="pqx:ErrorCorrectionType" minOccurs="0"/>
1653         <xs:element ref="pqx:ImageType" minOccurs="0"/>
1654         <xs:element ref="pqx:AverageGrade" minOccurs="0"/>
1655         <xs:element ref="pqx:Aperture" minOccurs="0"/>
1656         <xs:element ref="pqx:WavelengthOfLight" minOccurs="0"/>
1657         <xs:element ref="pqx:AngleOfLight" minOccurs="0"/>
1658         <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
1659     </xs:sequence>
1660 </xs:complexType>
1661 </xs:element>
1662 <!--====>
1663 <!--==== Matrix Size >
1664 <!--====>
1665 <xs:element name="MatrixSize" type="xs:string">
1666     <xs:annotation>
1667         <xs:documentation xml:lang="en">field of a barcode report that captures the
            dimension of a 2D barcode in horizontal element count by vertical element
            count
1668         </xs:documentation>
1669     </xs:annotation>
1670 </xs:element>
1671 <!--====>
1672 <!--==== Nominal X Dimension >
1673 <!--====>
1674 <xs:element name="NominalXDimension" type="xs:string">
1675     <xs:annotation>
1676         <xs:documentation xml:lang="en">field of a barcode report that captures the
            width of the narrow element in a barcode; sometimes used to describe the
            element size in a 2D symbol
1677         </xs:documentation>
1678     </xs:annotation>
1679 </xs:element>
1680 <!--====>
1681 <!--==== Contrast Uniformity >
1682 <!--====>
1683 <xs:element name="ContrastUniformity" type="xs:string">
1684     <xs:annotation>
1685         <xs:documentation xml:lang="en">field of a barcode report that captures the
            degree of uniformity of the light and dark barcode elements
1686         </xs:documentation>
1687     </xs:annotation>
1688 </xs:element>
1689 <!--====>
1690 <!--==== Print Growth >
1691 <!--====>
1692 <xs:element name="PrintGrowth" type="pqx:percentType">
1693     <xs:annotation>
1694         <xs:documentation xml:lang="en">field of a barcode report that captures the
            deviation as a percentage (larger or smaller) of actual element size from
            intended element size due to printing problems</xs:documentation>
1695     </xs:annotation>
1696 </xs:element>
1697 <!--====>
1698 <!--==== Horiz. BWG >
1699 <!--====>
1700 <xs:element name="HorizontalBWG" type="pqx:percentType">
1701     <xs:annotation>

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1702         <xs:documentation xml:lang="en">field of a barcode report that captures the
percent of horizontal spreading (bar width growth) of a printed 2D barcode
element
1703     </xs:documentation>
1704 </xs:annotation>
1705 </xs:element>
1706 <!--====>
1707 <!--==== Vert. BWG >
1708 <!--====>
1709 <xs:element name="VerticalBWG" type="pqx:percentType">
1710     <xs:annotation>
1711         <xs:documentation xml:lang="en">field of a barcode report that captures the
percent of vertical spreading (bar width growth) of a printed 2D barcode
element
1712     </xs:documentation>
1713     </xs:annotation>
1714 </xs:element>
1715 <!--====>
1716 <!--==== Encoded Char. Count >
1717 <!--====>
1718 <xs:element name="EncodedCharacterCount" type="xs:nonNegativeInteger">
1719     <xs:annotation>
1720         <xs:documentation xml:lang="en">field of a barcode report that captures the
number of data characters that are encoded in a barcode
1721     </xs:documentation>
1722     </xs:annotation>
1723 </xs:element>
1724 <!--====>
1725 <!--==== Data Codeword Count >
1726 <!--====>
1727 <xs:element name="DataCodewordCount" type="xs:nonNegativeInteger">
1728     <xs:annotation>
1729         <xs:documentation xml:lang="en">field of a barcode report that captures the
number of data codewords that are encoded in a barcode
1730     </xs:documentation>
1731     </xs:annotation>
1732 </xs:element>
1733 <!--====>
1734 <!--==== Total Codeword Count >
1735 <!--====>
1736 <xs:element name="TotalCodewordCount" type="xs:nonNegativeInteger">
1737     <xs:annotation>
1738         <xs:documentation xml:lang="en">field of a barcode report that provides the
number of data and non-data codewords a barcode can carry
1739     </xs:documentation>
1740     </xs:annotation>
1741 </xs:element>
1742 <!--====>
1743 <!--==== Error Capacity Used >
1744 <!--====>
1745 <xs:element name="ErrorCapacityUsed" type="xs:nonNegativeInteger">
1746     <xs:annotation>
1747         <xs:documentation xml:lang="en">field of a barcode report that captures the
capacity, as a percent, of a 2D barcode codewords used to correct for
errors or missing data, in a barcode
1748     </xs:documentation>
1749     </xs:annotation>
1750 </xs:element>
1751 <!--====>
1752 <!--==== Error Correct. Budget >
1753 <!--====>
1754 <xs:element name="ErrorCorrectionBudget" type="xs:nonNegativeInteger">
1755     <xs:annotation>
1756         <xs:documentation xml:lang="en">field of a barcode report that captures the
level of error correction, as a percent, encoded into a 2D barcode
symbol

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1757         </xs:documentation>
1758     </xs:annotation>
1759 </xs:element>
1760 <!--====          =====>
1761 <!--==== Error Correct. Use =====>
1762 <!--====          =====>
1763 <xs:element name="ErrorCorrectionUse" type="xs:nonNegativeInteger">
1764     <xs:annotation>
1765         <xs:documentation xml:lang="en">field of a barcode report that captures the
            number of 2D barcode codewords used for error correction
1766         </xs:documentation>
1767     </xs:annotation>
1768 </xs:element>
1769 <!--====          =====>
1770 <!--==== Errors Corrected =====>
1771 <!--====          =====>
1772 <xs:element name="ErrorsCorrected" type="xs:nonNegativeInteger">
1773     <xs:annotation>
1774         <xs:documentation xml:lang="en">field of a barcode report that captures the
            number of errors corrected by the barcode verification scanner
1775         </xs:documentation>
1776     </xs:annotation>
1777 </xs:element>
1778 <!--====          =====>
1779 <!--==== Error Correct. Type =====>
1780 <!--====          =====>
1781 <xs:element name="ErrorCorrectionType" type="xs:string">
1782     <xs:annotation>
1783         <xs:documentation xml:lang="en">field that captures the error correction
            algorithm employed
1784         </xs:documentation>
1785     </xs:annotation>
1786 </xs:element>
1787 <!--====          =====>
1788 <!--==== Image Type =====>
1789 <!--====          =====>
1790 <xs:element name="ImageType" type="pqx:barcodeSymbolType">
1791     <xs:annotation>
1792         <xs:documentation xml:lang="en">field of a barcode report that captures the
            characteristics of a barcode symbol image
1793         </xs:documentation>
1794     </xs:annotation>
1795 </xs:element>
1796 <!--====          =====>
1797 <!--==== Average Grade =====>
1798 <!--====          =====>
1799 <xs:element name="AverageGrade" type="xs:string">
1800     <xs:annotation>
1801         <xs:documentation xml:lang="en">field of a barcode report that captures the
            average grade for the for the fixed pattern based on the grades for the
            L-sides, quiet zones and the overall grade for the clock track and adjacent
            solid pattern
1802         </xs:documentation>
1803     </xs:annotation>
1804 </xs:element>
1805 <!--====          =====>
1806 <!--==== Wavelength of Light =====>
1807 <!--====          =====>
1808 <xs:element name="WavelengthOfLight" type="xs:positiveInteger">
1809     <xs:annotation>
1810         <xs:documentation xml:lang="en">field that captures the aperture reference
            number (from ISO/IEC 15416 for linear scanning techniques, or the diameter
            in thousandths of an inch (to the nearest thousandth) of the synthetic
            aperture
1811         </xs:documentation>
1812     </xs:annotation>

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1813     </xs:element>
1814     <!--====          =====>
1815     <!--====      Angle of Light  =====>
1816     <!--====          =====>
1817     <xs:element name="AngleOfLight" type="pqx:zero2180Type">
1818         <xs:annotation>
1819             <xs:documentation xml:lang="en">field of a barcode report that captures the
the illumination of the barcode verifier
1820             </xs:documentation>
1821         </xs:annotation>
1822     </xs:element>
1823     <!--==== ++++++ =====>
1824     <!--====      Fixed Pattern Damage Details  =====>
1825     <!--====          =====>
1826     <!--====          =====>
1827     <!--====          =====>
1828     <xs:element name="FPDDetails">
1829         <xs:annotation>
1830             <xs:documentation xml:lang="en">set of fields of a barcode report that
capture the details of a barcode fixed pattern damage</xs:documentation>
1831         </xs:annotation>
1832         <xs:complexType>
1833             <xs:sequence>
1834                 <xs:element ref="pqx:LeftLSide" minOccurs="0"/>
1835                 <xs:element ref="pqx:BottomLSide" minOccurs="0"/>
1836                 <xs:element ref="pqx:QuietZone" minOccurs="0"/>
1837                 <xs:element ref="pqx:LeftQZ" minOccurs="0"/>
1838                 <xs:element ref="pqx:TopQZ" minOccurs="0"/>
1839                 <xs:element ref="pqx:RightQZ" minOccurs="0"/>
1840                 <xs:element ref="pqx:BottomQZ" minOccurs="0"/>
1841                 <xs:element ref="pqx:TransitionRatio" minOccurs="0"/>
1842                 <xs:element ref="pqx:TopTR" minOccurs="0"/>
1843                 <xs:element ref="pqx:RightTR" minOccurs="0"/>
1844                 <xs:element ref="pqx:ClockTrack" minOccurs="0"/>
1845                 <xs:element ref="pqx:TopCT" minOccurs="0"/>
1846                 <xs:element ref="pqx:RightCT" minOccurs="0"/>
1847             </xs:sequence>
1848         </xs:complexType>
1849     </xs:element>
1850     <!--====          =====>
1851     <!--====      Left L Side  =====>
1852     <!--====          =====>
1853     <xs:element name="LeftLSide">
1854         <xs:annotation>
1855             <xs:documentation xml:lang="en">field of a barcode report that captures the
damage occurring in the left solid side of the L border of a Data Matrix 2D
barcode
1856             </xs:documentation>
1857         </xs:annotation>
1858         <xs:complexType>
1859             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1860         </xs:complexType>
1861     </xs:element>
1862     <!--====          =====>
1863     <!--====      Bottom L Side  =====>
1864     <!--====          =====>
1865     <xs:element name="BottomLSide">
1866         <xs:annotation>
1867             <xs:documentation xml:lang="en">field of a barcode report that captures the
damage occurring in the bottom solid side of the L border of a Data Matrix
2D barcode
1868             </xs:documentation>
1869         </xs:annotation>
1870         <xs:complexType>
1871             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1872         </xs:complexType>

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1873 </xs:element>
1874 <!--==== <====-->
1875 <!--==== Left QZ <====-->
1876 <!--==== <====-->
1877 <xs:element name="LeftQZ">
1878 <xs:annotation>
1879 <xs:documentation xml:lang="en">field of a barcode report that captures
1880 damage to the required minimum blank space at the left of a 2D barcode
1881 </xs:documentation>
1882 </xs:annotation>
1883 <xs:complexType>
1884 <xs:attributeGroup ref="pqx:barcodeRankType"/>
1885 </xs:complexType>
1886 </xs:element>
1887 <!--==== <====-->
1888 <!--==== Top QZ <====-->
1889 <!--==== <====-->
1890 <xs:element name="TopQZ">
1891 <xs:annotation>
1892 <xs:documentation xml:lang="en">field of a barcode report that captures
1893 damage to the required minimum blank space at the top of a 2D barcode
1894 </xs:documentation>
1895 </xs:annotation>
1896 <xs:complexType>
1897 <xs:attributeGroup ref="pqx:barcodeRankType"/>
1898 </xs:complexType>
1899 </xs:element>
1900 <!--==== <====-->
1901 <!--==== Right QZ <====-->
1902 <!--==== <====-->
1903 <xs:element name="RightQZ">
1904 <xs:annotation>
1905 <xs:documentation xml:lang="en">field of a barcode report that captures
1906 damage to the required minimum blank space to the right of a 2D barcode
1907 </xs:documentation>
1908 </xs:annotation>
1909 <xs:complexType>
1910 <xs:attributeGroup ref="pqx:barcodeRankType"/>
1911 </xs:complexType>
1912 </xs:element>
1913 <!--==== <====-->
1914 <!--==== Bottom QZ <====-->
1915 <!--==== <====-->
1916 <xs:element name="BottomQZ">
1917 <xs:annotation>
1918 <xs:documentation xml:lang="en">field that captures damage to the required
1919 minimum blank space at the bottom of a 2D barcode
1920 </xs:documentation>
1921 </xs:annotation>
1922 <xs:complexType>
1923 <xs:attributeGroup ref="pqx:barcodeRankType"/>
1924 </xs:complexType>
1925 </xs:element>
1926 <!--==== <====-->
1927 <!--==== Transition Ratio <====-->
1928 <!--==== <====-->
1929 <xs:element name="TransitionRatio">
1930 <xs:annotation>
1931 <xs:documentation xml:lang="en">field of a barcode report that captures the
1932 ratio between the number of transitions on the clock track and the
1933 associated solid area of the 2D barcode
1934 </xs:documentation>
1935 </xs:annotation>
1936 <xs:complexType>
1937 <xs:attributeGroup ref="pqx:barcodeRankType"/>
1938 </xs:complexType>

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1932     </xs:element>
1933     <!--====          =====>
1934     <!--====          Top TR          =====>
1935     <!--====          =====>
1936     <xs:element name="TopTR">
1937         <xs:annotation>
1938             <xs:documentation xml:lang="en">field of a barcode report that captures the
                ratio between the number of transitions on the top clock track and the
                associated solid area of the 2D barcode</xs:documentation>
1939         </xs:annotation>
1940         <xs:complexType>
1941             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1942         </xs:complexType>
1943     </xs:element>
1944     <!--====          =====>
1945     <!--====          Right TR          =====>
1946     <!--====          =====>
1947     <xs:element name="RightTR">
1948         <xs:annotation>
1949             <xs:documentation xml:lang="en">field that captures the ratio between the
                number of transitions on the right clock track and the associated solid
                area of the 2D barcode
1950             </xs:documentation>
1951         </xs:annotation>
1952         <xs:complexType>
1953             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1954         </xs:complexType>
1955     </xs:element>
1956     <!--====          =====>
1957     <!--====          Clock Track          =====>
1958     <!--====          =====>
1959     <xs:element name="ClockTrack">
1960         <xs:annotation>
1961             <xs:documentation xml:lang="en">field of a barcode report that reports the
                accurate reproduction of the sequence of dark and light modules in a Data
                Matrix symbol
1962             </xs:documentation>
1963         </xs:annotation>
1964         <xs:complexType>
1965             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1966         </xs:complexType>
1967     </xs:element>
1968     <!--====          =====>
1969     <!--====          Top CT          =====>
1970     <!--====          =====>
1971     <xs:element name="TopCT">
1972         <xs:annotation>
1973             <xs:documentation xml:lang="en">field of a barcode report that reports
                damage to the top clock track of a data matrix 2D barcode
1974             </xs:documentation>
1975         </xs:annotation>
1976         <xs:complexType>
1977             <xs:attributeGroup ref="pqx:barcodeRankType"/>
1978         </xs:complexType>
1979     </xs:element>
1980     <!--====          =====>
1981     <!--====          Right CT          =====>
1982     <!--====          =====>
1983     <xs:element name="RightCT">
1984         <xs:annotation>
1985             <xs:documentation xml:lang="en">field of a barcode report that reports
                damage to the right clock track of a data matrix 2D barcode
1986             </xs:documentation>
1987         </xs:annotation>
1988         <xs:complexType>
                <xs:attributeGroup ref="pqx:barcodeRankType"/>

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1989         </xs:complexType>
1990     </xs:element>
1991     <!--====          =====>
1992     <!--====          UEC          =====>
1993     <!--====          =====>
1994     <xs:element name="UnusedErrorCorrection">
1995         <xs:annotation>
1996             <xs:documentation xml:lang="en">(UEC) field of a barcode report that
                measures the amount of available error correction (reading safety margin)
                of a symbol</xs:documentation>
1997         </xs:annotation>
1998         <xs:complexType>
1999             <xs:attributeGroup ref="pqx:barcodeRankType"/>
2000         </xs:complexType>
2001     </xs:element>
2002     <!--====          =====>
2003     <!--====          Codewords          =====>
2004     <!--====          =====>
2005     <xs:element name="Codewords" type="pqx:codewordsType">
2006         <xs:annotation>
2007             <xs:documentation xml:lang="en">field of a barcode report that enumerates
                ASCII codewords contained within the barcode
2008             </xs:documentation>
2009         </xs:annotation>
2010     </xs:element>
2011     <!--====          =====>
2012     <!--====          Codeword Yield          =====>
2013     <!--====          =====>
2014     <xs:element name="CodewordYield">
2015         <xs:annotation>
2016             <xs:documentation xml:lang="en">field of a barcode report that indicates
                interference between adjacent rows in a 2D barcode
2017             </xs:documentation>
2018         </xs:annotation>
2019         <xs:complexType>
2020             <xs:attributeGroup ref="pqx:barcodeRankType"/>
2021         </xs:complexType>
2022     </xs:element>
2023     <!--====          =====>
2024     <!--====          Grid Nonuniformity          =====>
2025     <!--====          =====>
2026     <xs:element name="GridNonuniformity">
2027         <xs:annotation>
2028             <xs:documentation xml:lang="en">(GNU) field of a barcode report that
                measures the largest vector deviation of the grid intersections
2029             </xs:documentation>
2030         </xs:annotation>
2031         <xs:complexType>
2032             <xs:attributeGroup ref="pqx:barcodeRankType"/>
2033         </xs:complexType>
2034     </xs:element>
2035     <!--====          =====>
2036     <!--====          Axial Nonuniformity          =====>
2037     <!--====          =====>
2038     <xs:element name="AxialNonuniformity">
2039         <xs:annotation>
2040             <xs:documentation xml:lang="en">(AUX) field of a barcode report that
                measures uneven scaling of the 2D barcode symbol
2041             </xs:documentation>
2042         </xs:annotation>
2043         <xs:complexType>
2044             <xs:attributeGroup ref="pqx:barcodeRankType"/>
2045         </xs:complexType>
2046     </xs:element>
2047     <!--====          =====>
2048     <!--====          Fixed Pattern Damage          =====>

```



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2049 <!--====>
2050 <xs:element name="FixedPatternDamage">
2051   <xs:annotation>
2052     <xs:documentation xml:lang="en">field of a barcode report that measures any
        damage to the finder patterns, quiet zones, clock tracks, timing,
        navigation and other fixed patterns that scanners use to locate and decode
        a barcode symbol
2053     </xs:documentation>
2054   </xs:annotation>
2055   <xs:complexType>
2056     <xs:attributeGroup ref="pqx:barcodeRankType"/>
2057   </xs:complexType>
2058 </xs:element>
2059 <!--====>
2060 <!--====> Color Report <!--====>
2061 <!--====>
2062 <xs:element name="ColorReport">
2063   <xs:annotation>
2064     <xs:documentation xml:lang="en">set of fields that provide an account of
        the accuracy of colour reproduction on a printed sample</xs:documentation>
2065   </xs:annotation>
2066   <xs:complexType>
2067     <xs:sequence>
2068       <xs:element ref="pqx:MeasurementSet" minOccurs="1" maxOccurs="unbounded"
        />
2069     </xs:sequence>
2070     <xs:attribute name="ReportType" type="pqx:colorReportTypeType" default=
        "direct">
2071       <xs:annotation>
2072         <xs:documentation xml:lang="en">field that provides the colour
            report type; default is type "Direct"</xs:documentation>
2073       </xs:annotation>
2074     </xs:attribute>
2075   </xs:complexType>
2076 </xs:element>
2077 <!--====>
2078 <!--====> Measurement Set <!--====>
2079 <!--====>
2080 <xs:element name="MeasurementSet">
2081   <xs:annotation>
2082     <xs:documentation xml:lang="en">set of fields that provide colour
        measurements of a customer item taken at a single position on a sample
2083     </xs:documentation>
2084   <xs:complexType>
2085     <xs:sequence>
2086       <!--** <xs:element ref="pqx:MeasurementSetId" minOccurs="0"/> -->
2087       <xs:element ref="pqx:CustomerItemIdLink"/>
2088       <xs:element ref="pqx:PositionOnSample"/>
2089       <xs:element ref="pqx:ReporterIdLink" minOccurs="0"/>
2090       <xs:element ref="pqx:ChartType" minOccurs="0"/>
2091       <xs:element ref="pqx:Measurement" minOccurs="1" maxOccurs="unbounded"/>
2092       <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
2093     </xs:sequence>
2094   </xs:complexType>
2095 </xs:element>
2096 <!--====>
2097 <!--====> Measurement Chart Type <!--====>
2098 <!--====>
2099 <xs:element name="ChartType" type="xs:string">
2100   <xs:annotation>
2101     <xs:documentation xml:lang="en">field that provides a classification for
        the specific, pre-defined configuration of colour patches that is being
        measured for colour evaluation purposes</xs:documentation>
2102   </xs:annotation>
2103 </xs:element>

```

```

2104 <!--====>
2105 <!--==== Measurement >
2106 <!--====>
2107 <xs:element name="Measurement">
2108   <xs:annotation>
2109     <xs:documentation xml:lang="en">set of fields that describe a single colour
      measurement taken to evaluate print quality</xs:documentation>
2110   </xs:annotation>
2111   <xs:complexType>
2112     <xs:sequence>
2113       <xs:element ref="pqx:MeasurementName" minOccurs="0"/>
2114       <xs:element ref="pqx:PatchType"/>
2115       <xs:element ref="pqx:AveragingMethod" minOccurs="0"/>
2116       <xs:choice minOccurs="0">
2117         <xs:element ref="pqx:ItemsPerAverage"/>
2118         <xs:element ref="pqx:PatchesPerAverage"/>
2119       </xs:choice>
2120       <xs:element ref="pqx:PQXSubstrateIdLink" minOccurs="0"/>
2121       <xs:element ref="pqx:PrintedInkInfo" minOccurs="0" maxOccurs="unbounded"
      />
2122       <xs:element ref="pqx:CxFSampleObjectIdLink"/>
2123       <xs:element ref="pqx:CxFReferenceObjectIdLink" minOccurs="0"/>
2124       <xs:element ref="pqx:TagCollection" minOccurs="0" maxOccurs="unbounded"/>
2125     </xs:sequence>
2126     <xs:attribute name="Id" type="xs:ID" use="required">
2127       <xs:annotation>
2128         <xs:documentation xml:lang="en">field that provides unique
      identification (within the scope of the PQX file) for this colour
      measurement</xs:documentation>
2129       </xs:annotation>
2130     </xs:attribute>
2131   </xs:complexType>
2132 </xs:element>
2133 <!--====>
2134 <!--==== Patch Type >
2135 <!--====>
2136 <xs:element name="PatchType">
2137   <xs:annotation>
2138     <xs:documentation xml:lang="en">field that provides a classification for
      the patch being measured</xs:documentation>
2139   </xs:annotation>
2140   <xs:simpleType>
2141     <xs:restriction base="xs:NMTOKEN">
2142       <xs:enumeration value="substrate">
2143         <xs:annotation>
2144           <xs:documentation xml:lang="en">Substrate Patch: A patch used
      to measure substrate color.</xs:documentation>
2145         </xs:annotation>
2146       </xs:enumeration>
2147       <xs:enumeration value="solid">
2148         <xs:annotation>
2149           <xs:documentation xml:lang="en">Solid Patch: A patch used to
      measure a 100% solid color.
2150           </xs:documentation>
2151         </xs:annotation>
2152       </xs:enumeration>
2153       <xs:enumeration value="tint">
2154         <xs:annotation>
2155           <xs:documentation xml:lang="en">Tint Patch: A patch used to
      measure partial ink coverage. TintValue element gives the
      percent coverage.
2156           </xs:documentation>
2157         </xs:annotation>
2158       </xs:enumeration>
2159       <xs:enumeration value="grayBalance">
2160         <xs:annotation>

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2161         <xs:documentation xml:lang="en">Gray Balance Patch: A patch to
                be gray.
2162         </xs:documentation>
2163     </xs:annotation>
2164 </xs:enumeration>
2165 <xs:enumeration value="overprint">
2166     <xs:annotation>
2167         <xs:documentation xml:lang="en">Overprint Patch: A patch color
                made with 2 or more solids at a 100% tint value.
2168         </xs:documentation>
2169     </xs:annotation>
2170 </xs:enumeration>
2171 <xs:enumeration value="build">
2172     <xs:annotation>
2173         <xs:documentation xml:lang="en">Build Patch: A patch that is a
                generic build, not intended to produce a specific color, like a
                patch in an image.
2174         </xs:documentation>
2175     </xs:annotation>
2176 </xs:enumeration>
2177 <xs:enumeration value="special">
2178     <xs:annotation>
2179         <xs:documentation xml:lang="en">Special Patch: A patch that is
                designed to produce a specific color (like an ECG recipe).
2180         </xs:documentation>
2181     </xs:annotation>
2182 </xs:enumeration>
2183 </xs:restriction>
2184 </xs:simpleType>
2185 </xs:element>
2186 <!--====>
2187 <!--==== Measurement Name >
2188 <!--====>
2189 <xs:element name="MeasurementName" type="xs:string">
2190     <xs:annotation>
2191         <xs:documentation xml:lang="en">field that provides a word or set of words
                by which this measurement is known</xs:documentation>
2192     </xs:annotation>
2193 </xs:element>
2194 <!--====>
2195 <!--==== PQX Substrate Id-Link >
2196 <!--====>
2197 <xs:element name="PQXSubstrateIdLink" type="xs:NCName">
2198     <xs:annotation>
2199         <xs:documentation xml:lang="en">field that provides a connection to the PQX
                measurement for the substrate</xs:documentation>
2200     </xs:annotation>
2201 </xs:element>
2202 <!--====>
2203 <!--==== CxF Sample Object Id-Link >
2204 <!--====>
2205 <xs:element name="CxFSampleObjectIdLink" type="xs:string">
2206     <xs:annotation>
2207         <xs:documentation xml:lang="en">field that provides a connection to the CxF
                object in the CxF sample data block for this measurement</xs:documentation>
2208     </xs:annotation>
2209 </xs:element>
2210 <!--====>
2211 <!--==== CxF Reference Object Id-Link >
2212 <!--====>
2213 <xs:element name="CxFReferenceObjectIdLink" type="xs:string">
2214     <xs:annotation>
2215         <xs:documentation xml:lang="en">field that provides a connection to the CxF
                object in the CxF reference data block for this measurement
                </xs:documentation>
2216     </xs:annotation>

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2217 </xs:element>
2218 <!--==== <====>
2219 <!--==== CxF Sample Data <====>
2220 <!--==== <====>
2221 <xs:element name="CxFSampleData">
2222 <xs:annotation>
2223 <xs:documentation xml:lang="en">data container for sample measurement data
in an ISO 17972-3 format</xs:documentation>
2224 </xs:annotation>
2225 <xs:complexType>
2226 <xs:sequence>
2227 <xs:element ref="cc:CxF" minOccurs="1"/>
2228 </xs:sequence>
2229 </xs:complexType>
2230 </xs:element>
2231 <!--==== <====>
2232 <!--==== CxF Reference Data <====>
2233 <!--==== <====>
2234 <xs:element name="CxFReferenceData">
2235 <xs:annotation>
2236 <xs:documentation xml:lang="en">data container for standard aim data in an
ISO 17972-3 format</xs:documentation>
2237 </xs:annotation>
2238 <xs:complexType>
2239 <xs:sequence>
2240 <xs:element ref="cc:CxF" minOccurs="1"/>
2241 </xs:sequence>
2242 </xs:complexType>
2243 </xs:element>
2244 <!--==== ++++++ <====>
2245 <!--==== Custom Tag Collection <====>
2246 <!--==== ++++++ <====>
2247 <xs:element name="TagCollection">
2248 <xs:annotation>
2249 <xs:documentation xml:lang="en">data container used to insert additional,
custom child elements into the definition of a PQX element; used to include
print quality data that is considered application specific in nature and
not generally of use to all other applications</xs:documentation>
2250 </xs:annotation>
2251 <xs:complexType>
2252 <xs:sequence>
2253 <xs:element name="Tag" minOccurs="1" maxOccurs="unbounded">
2254 <xs:annotation>
2255 <xs:documentation xml:lang="en">field designed to transmit
custom print quality metadata as a name / value pair
</xs:documentation>
2256 </xs:annotation>
2257 <xs:complexType>
2258 <xs:attribute name="Name" type="xs:string" use="required">
2259 <xs:annotation>
2260 <xs:documentation xml:lang="en">required field to
provide a key or label for a custom PQX tag
</xs:documentation>
2261 </xs:annotation>
2262 </xs:attribute>
2263 <xs:attribute name="Value" type="xs:string" use="required">
2264 <xs:annotation>
2265 <xs:documentation xml:lang="en">required field to
provide an equivalence for a custom PQX tag
</xs:documentation>
2266 </xs:annotation>
2267 </xs:attribute>
2268 </xs:complexType>
2269 </xs:element>
2270 </xs:sequence>
2271 <xs:attribute name="Name" type="xs:string" use="required">

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2272         <xs:annotation>
2273             <xs:documentation xml:lang="en">field that provides a required key
                or name for a collection of custom PQX tags</xs:documentation>
2274         </xs:annotation>
2275     </xs:attribute>
2276 </xs:complexType>
2277 </xs:element>
2278 <!--====>
2279 <!--==== Custom Resources <!--====>
2280 <!--====>
2281 <xs:element name="CustomResources">
2282     <xs:annotation>
2283         <xs:documentation xml:lang="en">data container used to extend the PQX file
            format to include additional XML encoded print quality information that is
            considered application specific in nature and not generally of use to all
            other applications</xs:documentation>
2284     </xs:annotation>
2285     <xs:complexType>
2286         <xs:sequence minOccurs="0" maxOccurs="unbounded">
2287             <xs:any namespace="##other" processContents="lax"/>
2288         </xs:sequence>
2289         <xs:anyAttribute processContents="lax"/>
2290     </xs:complexType>
2291 </xs:element>
2292 <!--====>
2293 <!--==== Printed Ink Information <!--====>
2294 <!--====>
2295 <xs:element name="PrintedInkInfo">
2296     <xs:annotation>
2297         <xs:documentation xml:lang="en">set of fields that providing information
            about an ink that is required for tone value calculaltions</xs:documentation>
2298     </xs:annotation>
2299     <xs:complexType>
2300         <xs:sequence>
2301             <xs:element ref="pqx:InkIdLink" minOccurs="1"/>
2302             <xs:element ref="pqx:TintValue" minOccurs="1"/>
2303             <xs:element ref="pqx:PQXSolidInkParentIdLink" minOccurs="0"/>
2304         </xs:sequence>
2305     </xs:complexType>
2306 </xs:element>
2307 <!--====>
2308 <!--==== Tint Value <!--====>
2309 <!--====>
2310 <xs:element name="TintValue" type="xs:nonNegativeInteger">
2311     <xs:annotation>
2312         <xs:documentation xml:lang="en">field that provides the percentage of ink
            coverage as a nonnegative integer</xs:documentation>
2313     </xs:annotation>
2314 </xs:element>
2315 <!--====>
2316 <!--==== PQX Solid Ink Parent Id Link <!--====>
2317 <!--====>
2318 <xs:element name="PQXSolidInkParentIdLink" type="xs:NCName">
2319     <xs:annotation>
2320         <xs:documentation xml:lang="en">field that provides a connection to the PQX
            measurement for the solid ink parent of a tint patch</xs:documentation>
2321     </xs:annotation>
2322 </xs:element>
2323 <!--====>
2324 <!--==== Defect Image Data <!--====>
2325 <!--====>
2326 <xs:element name="DefectImageData">
2327     <xs:annotation>
2328         <xs:documentation xml:lang="en">is a data container used to provide
            linkages to the defect images generated from on-press camera-based defect
            detection systems</xs:documentation>

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2329         </xs:annotation>
2330         <xs:complexType>
2331             <xs:sequence>
2332                 <xs:element ref="pqx:DefectImage" minOccurs="1" maxOccurs="unbounded"/>
2333             </xs:sequence>
2334         </xs:complexType>
2335     </xs:element>
2336     <!--====                    =====>
2337     <!--====            Defect Image            =====>
2338     <!--====                    =====>
2339     <xs:element name="DefectImage">
2340         <xs:annotation>
2341             <xs:documentation xml:lang="en">field that that carries access information
                and unique identification (within the scope of the PQX file) for one defect
                image generated by an on-press, camera-based defect tracking system
            </xs:documentation>
2342         </xs:annotation>
2343         <xs:complexType>
2344             <xs:attribute name="Id" type="xs:ID" use="required">
2345                 <xs:annotation>
2346                     <xs:documentation xml:lang="en">field that provides unique
                        identification (within the scope of the PQX file) for a defect image
                    </xs:documentation>
2347                 </xs:annotation>
2348             </xs:attribute>
2349             <xs:attribute name="ImageLink" type="xs:anyURI" use="required">
2350                 <xs:annotation>
2351                     <xs:documentation xml:lang="en">field that provides a link to the
                        image of the defect listed in the defect image block. Note to
                        Entry: If this is a local URI, the assumption is that the images
                        are somehow packaged along with the PQX file that references them.
                        A remote URL can be used to reference a remote secure server where
                        images are stored and accessed.</xs:documentation>
2352                     </xs:annotation>
2353                 </xs:attribute>
2354             </xs:complexType>
2355         </xs:element>
2356         <!-- -->
2357         <!-- ++++++ GLOBAL ATTRIBUTE GROUP ++++++ -->
2358         <!-- -->
2359         <xs:attributeGroup name="barcodeRankType">
2360             <xs:annotation>
2361                 <xs:documentation xml:lang="en">attribute group made up of ISO, ANSI and
                    percentage grading types</xs:documentation>
2362             </xs:annotation>
2363             <xs:attribute name="ISONumericReporting" type="pqx:numericGradeType" use=
                "required">
2364                 <xs:annotation>
2365                     <xs:documentation xml:lang="en">ISO Numeric Reporting: employing a
                        scale from 0.0 (low) to 4.0 (high).</xs:documentation>
2366                 </xs:annotation>
2367             </xs:attribute>
2368         </xs:attributeGroup>
2369         <!-- -->
2370         <!-- ++++++ SIMPLE TYPES ++++++ -->
2371         <!-- -->
2372         <!--====                    =====>
2373         <!--====            Print Method Type            =====>
2374         <!--====                    =====>
2375         <xs:simpleType name="printMethodType">
2376             <xs:annotation>
2377                 <xs:documentation xml:lang="en">PQX datatype made up of a list of standard
                    print method types</xs:documentation>
2378             </xs:annotation>
2379             <xs:restriction base="xs:NMTOKEN">

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2380 <xs:enumeration value="offsetLithography">
2381   <xs:annotation>
2382     <xs:documentation xml:lang="en">Offset Lithography: printing method
        using a flat surface treated so as to repel the ink except where it
        is required for printing.</xs:documentation>
2383   </xs:annotation>
2384 </xs:enumeration>
2385 <xs:enumeration value="dryOffset">
2386   <xs:annotation>
2387     <xs:documentation xml:lang="en">Dry Offset: printing method in
        which the inked impression from letterpress or relief is etched on
        a thin metal surface, then printed on an intermediate rubber
        surface (as a blanket), and then offset onto the paper.
2388     </xs:documentation>
2389   </xs:annotation>
2390 </xs:enumeration>
2391 <xs:enumeration value="flexography">
2392   <xs:annotation>
2393     <xs:documentation xml:lang="en">Flexography: rotary relief printing
        method using rubber or plastic plates and fluid inks or dyes for
        printing on fabrics and impervious materials such as plastics, as
        well as on paper.</xs:documentation>
2394   </xs:annotation>
2395 </xs:enumeration>
2396 <xs:enumeration value="gravure">
2397   <xs:annotation>
2398     <xs:documentation xml:lang="en">Gravure: printing method that
        produces an image from etching a plate through an intaglio process
        and producing a print from it.</xs:documentation>
2399   </xs:annotation>
2400 </xs:enumeration>
2401 <xs:enumeration value="inkjet">
2402   <xs:annotation>
2403     <xs:documentation xml:lang="en">Ink Jet Printer: printing method
        that uses a computer peripheral that produces hard copy by spraying
        ink onto paper.
2404     </xs:documentation>
2405   </xs:annotation>
2406 </xs:enumeration>
2407 <xs:enumeration value="screen">
2408   <xs:annotation>
2409     <xs:documentation xml:lang="en">Screen Print: printing method that
        forces ink or metal onto (a surface) through a prepared screen of
        fine material so as to create a picture or pattern.
2410     </xs:documentation>
2411   </xs:annotation>
2412 </xs:enumeration>
2413 <xs:enumeration value="electrophotography">
2414   <xs:annotation>
2415     <xs:documentation xml:lang="en">Electrophotography: printing method
        that uses photography employing electricity to transfer an image
        onto paper, as in laser printing and photocopying</xs:documentation>
2416   </xs:annotation>
2417 </xs:enumeration>
2418 <xs:enumeration value="dyeSublimation">
2419   <xs:annotation>
2420     <xs:documentation xml:lang="en">Dye Sublimation: printing method
        which uses heat to transfer dye onto materials such as a plastic,
        card, paper, or fabric. The sublimation name was first applied
        because the dye was considered to make the transition between the
        solid and gas states without going through a liquid stage.
2421     </xs:documentation>
2422   </xs:annotation>
2423 </xs:enumeration>
2424 <xs:enumeration value="letterPress">
2425   <xs:annotation>

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2423         <xs:documentation xml:lang="en">Letterpress: oldest form of
printing inking a surface with raised letters pressed to the
surface of the printing substrate to reproduce an image in reverse.
        </xs:documentation>
2424     </xs:annotation>
2425 </xs:enumeration>
2426 <xs:enumeration value="hybrid">
2427     <xs:annotation>
2428         <xs:documentation xml:lang="en">Hybrid Printing: printing using a
combination of methods such as inkjet and digital.</xs:documentation>
2429     </xs:annotation>
2430 </xs:enumeration>
2431 <xs:enumeration value="other">
2432     <xs:annotation>
2433         <xs:documentation xml:lang="en">Other Method: any other method not
enumerated by PQX for printing an item.</xs:documentation>
2434     </xs:annotation>
2435 </xs:enumeration>
2436 </xs:restriction>
2437 </xs:simpleType>
2438 <!--====          =====>
2439 <!--====      Print Side Type          =====>
2440 <!--====          =====>
2441 <xs:simpleType name="printSideType">
2442     <xs:annotation>
2443         <xs:documentation xml:lang="en">PQX datatype made up of a list standard
print side indicator types</xs:documentation>
2444     </xs:annotation>
2445     <xs:restriction base="xs:NMTOKEN">
2446         <xs:enumeration value="surface">
2447             <xs:annotation>
2448                 <xs:documentation xml:lang="en">Surface Side Printed: The press
prints the image on the surface of the substrate.</xs:documentation>
2449             </xs:annotation>
2450         </xs:enumeration>
2451         <xs:enumeration value="reverse">
2452             <xs:annotation>
2453                 <xs:documentation xml:lang="en">Reverse Side Printed: The press
prints the image on the reverse side of the substrate.
                </xs:documentation>
2454             </xs:annotation>
2455         </xs:enumeration>
2456         <xs:enumeration value="both">
2457             <xs:annotation>
2458                 <xs:documentation xml:lang="en">Both Sides Printed: The press
prints the image on the both the surface and reverse sides of the
substrate.</xs:documentation>
2459             </xs:annotation>
2460         </xs:enumeration>
2461     </xs:restriction>
2462 </xs:simpleType>
2463 <!--====          =====>
2464 <!--==== Customer Item Id Type          =====>
2465 <!--====          =====>
2466 <xs:simpleType name="customerItemIdType">
2467     <xs:annotation>
2468         <xs:documentation xml:lang="en">PQX datatype made up of a list of standard
print item identifier types</xs:documentation>
2469     </xs:annotation>
2470     <xs:restriction base="xs:NMTOKEN">
2471         <xs:enumeration value="SKU">
2472             <xs:annotation>
2473                 <xs:documentation xml:lang="en">SKU: stock-keeping unit.
                </xs:documentation>
2474             </xs:annotation>
2475         </xs:enumeration>

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2476     <xs:enumeration value="UPC">
2477         <xs:annotation>
2478             <xs:documentation xml:lang="en">UPC: universal product code.
                </xs:documentation>
2479         </xs:annotation>
2480     </xs:enumeration>
2481     <xs:enumeration value="artCode">
2482         <xs:annotation>
2483             <xs:documentation xml:lang="en">Art Code: identifier for art that
                is printed.</xs:documentation>
2484         </xs:annotation>
2485     </xs:enumeration>
2486     <xs:enumeration value="other">
2487         <xs:annotation>
2488             <xs:documentation xml:lang="en">Other Code: any other identifier
                for the item printed.</xs:documentation>
2489         </xs:annotation>
2490     </xs:enumeration>
2491 </xs:restriction>
2492 </xs:simpleType>
2493 <!--====                    =====>
2494 <!--====                    Agent Role Type                =====>
2495 <!--====                    =====>
2496 <xs:simpleType name="agentRoleType">
2497     <xs:annotation>
2498         <xs:documentation xml:lang="en">PQX datatype made up of standard print
            agent role types or other</xs:documentation>
2499     </xs:annotation>
2500     <xs:restriction base="xs:NMTOKEN">
2501         <xs:enumeration value="broker">
2502             <xs:annotation>
2503                 <xs:documentation xml:lang="en">Broker: agent that sells print
                    service.</xs:documentation>
2504             </xs:annotation>
2505         </xs:enumeration>
2506         <xs:enumeration value="preMediaCompany">
2507             <xs:annotation>
2508                 <xs:documentation xml:lang="en">Pre-media Company: agent that
                    prepares digital media to be printed.</xs:documentation>
2509             </xs:annotation>
2510         </xs:enumeration>
2511         <xs:enumeration value="printQualityServiceProvider">
2512             <xs:annotation>
2513                 <xs:documentation xml:lang="en">Print Quality Service Provider:
                    agent that provides quality assurance services to a print buyer.
                    </xs:documentation>
2514             </xs:annotation>
2515         </xs:enumeration>
2516         <xs:enumeration value="supplier">
2517             <xs:annotation>
2518                 <xs:documentation xml:lang="en">Supplier: agent that provides
                    supplies, such as inks or substrates, to the printer or is a
                    supplier to the print buyer.</xs:documentation>
2519             </xs:annotation>
2520         </xs:enumeration>
2521         <xs:enumeration value="other">
2522             <xs:annotation>
2523                 <xs:documentation xml:lang="en">Other Agent: any other party that
                    plays a role in the print quality supply chain.</xs:documentation>
2524             </xs:annotation>
2525         </xs:enumeration>
2526         <xs:enumeration value="NA">
2527             <xs:annotation>
2528                 <xs:documentation xml:lang="en">NA: an indication that an agent
                    does not participate in this activity.</xs:documentation>
2529             </xs:annotation>

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2530         </xs:enumeration>
2531     </xs:restriction>
2532 </xs:simpleType>
2533 <!--====>
2534 <!--==== Date or DateTime Type >====>
2535 <!--====>
2536 <xs:simpleType name="dateOrDateTime">
2537     <xs:annotation>
2538         <xs:documentation xml:lang="en">PQX datatype made up of the union of a
                standard ISO date type and a standard ISO dateTime type</xs:documentation>
2539     </xs:annotation>
2540     <xs:union memberTypes="xs:date xs:dateTime"/>
2541 </xs:simpleType>
2542 <!--====>
2543 <!--==== Percent Type >====>
2544 <!--====>
2545 <xs:simpleType name="percentType">
2546     <xs:annotation>
2547         <xs:documentation xml:lang="en">PQX datatype defining the expression of a
                percentage</xs:documentation>
2548     </xs:annotation>
2549     <xs:restriction base="xs:double">
2550         <xs:minInclusive value="0.0"/>
2551         <xs:maxInclusive value="100.0"/>
2552     </xs:restriction>
2553 </xs:simpleType>
2554 <!--====>
2555 <!--==== Meterage Value Type >====>
2556 <!--====>
2557 <xs:simpleType name="meterageValueType">
2558     <xs:annotation>
2559         <xs:documentation xml:lang="en">PQX datatype defining non-negative decimal
                values used to measure meterage</xs:documentation>
2560     </xs:annotation>
2561     <xs:restriction base="xs:decimal">
2562         <xs:minInclusive value="0.0"/>
2563     </xs:restriction>
2564 </xs:simpleType>
2565 <!--====>
2566 <!--==== Color Report Type >====>
2567 <!--====>
2568 <xs:simpleType name="colorReportTypeType">
2569     <xs:annotation>
2570         <xs:documentation xml:lang="en">PQX datatype made up of a list of standard
                color report types</xs:documentation>
2571     </xs:annotation>
2572     <xs:restriction base="xs:NMTOKEN">
2573         <xs:enumeration value="toneCalculation">
2574             <xs:annotation>
2575                 <xs:documentation xml:lang="en">Tone Calculation Type: a color
                        report where tone values are calculated by the receiver
2576                 </xs:documentation>
2577             </xs:annotation>
2578         </xs:enumeration>
2579         <xs:enumeration value="direct">
2580             <xs:annotation>
2581                 <xs:documentation xml:lang="en">Direct Type: color report where CxF
                        values are directly utilized by the receiver</xs:documentation>
2582             </xs:annotation>
2583         </xs:enumeration>
2584     </xs:restriction>
2585 </xs:simpleType>
2586 <!--====>
2587 <!--==== Pass Fail Type >====>
2588 <!--====>
2589 <xs:simpleType name="passFailType">

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2590     <xs:annotation>
2591         <xs:documentation xml:lang="en">PQX datatype defining the expression of
           pass/fail </xs:documentation>
2592     </xs:annotation>
2593     <xs:restriction base="xs:NMTOKEN">
2594         <xs:enumeration value="pass">
2595             <xs:annotation>
2596                 <xs:documentation xml:lang="en">Pass: indication that the value is
                   acceptable.</xs:documentation>
2597             </xs:annotation>
2598         </xs:enumeration>
2599         <xs:enumeration value="fail">
2600             <xs:annotation>
2601                 <xs:documentation xml:lang="en">Fail: indication that the value is
                   not acceptable.</xs:documentation>
2602             </xs:annotation>
2603         </xs:enumeration>
2604     </xs:restriction>
2605 </xs:simpleType>
2606 <!--====                               =====>
2607 <!--====   Aver. Method Type           =====>
2608 <!--====                               =====>
2609 <xs:simpleType name="averagingMethodType">
2610     <xs:annotation>
2611         <xs:documentation xml:lang="en">PQX datatype made up of standard averaging
           method types</xs:documentation>
2612     </xs:annotation>
2613     <xs:restriction base="xs:NMTOKEN">
2614         <xs:enumeration value="arithmeticMean">
2615             <xs:annotation>
2616                 <xs:documentation xml:lang="en">Arithmetic Mean: the average of a
                   set of numerical values contributing equally to the final average,
                   calculated by adding them together and dividing by the number of
                   terms in the set.</xs:documentation>
2617             </xs:annotation>
2618         </xs:enumeration>
2619         <xs:enumeration value="weightedMean">
2620             <xs:annotation>
2621                 <xs:documentation xml:lang="en">Weighted Mean: the average of a set
                   of numerical values, calculated by multiplying each value by a
                   weighting factor, then adding them together and dividing by the
                   number of terms in the set.</xs:documentation>
2622             </xs:annotation>
2623         </xs:enumeration>
2624         <xs:enumeration value="median">
2625             <xs:annotation>
2626                 <xs:documentation xml:lang="en">Median: value or quantity lying at
                   the midpoint of a frequency distribution of observed values or
                   quantities, such that there is an equal probability of falling
                   above or below it: </xs:documentation>
2627             </xs:annotation>
2628         </xs:enumeration>
2629         <xs:enumeration value="custom">
2630             <xs:annotation>
2631                 <xs:documentation xml:lang="en">Custom Averaging: average
                   calculated by a custom formula.</xs:documentation>
2632             </xs:annotation>
2633         </xs:enumeration>
2634         <xs:enumeration value="none">
2635             <xs:annotation>
2636                 <xs:documentation xml:lang="en">No Averaging: no average is
                   calculated or employed.</xs:documentation>
2637             </xs:annotation>
2638         </xs:enumeration>
2639         <xs:enumeration value="NA">
2640             <xs:annotation>

```

```

2641         <xs:documentation xml:lang="en">NA: Averaging does not apply in
           this situation.</xs:documentation>
2642     </xs:annotation>
2643 </xs:enumeration>
2644 </xs:restriction>
2645 </xs:simpleType>
2646 <!--====          =====>
2647 <!--====      Defect Name Type      =====>
2648 <!--====          =====>
2649 <xs:simpleType name="defectNameType">
2650     <xs:annotation>
2651         <xs:documentation xml:lang="en">PQX datatype made up of a list of standard
           defect name types</xs:documentation>
2652     </xs:annotation>
2653     <xs:restriction base="xs:NMTOKEN">
2654         <xs:enumeration value="hickey">
2655             <xs:annotation>
2656                 <xs:documentation xml:lang="en">Hickey: printing defect caused by a
                   particle either of paper or other source of debris attaching itself
                   to the printing plate, blanket, gravure cylinder, or other
                   image-carrying surface. Debris produces either a blank, unprinted
                   spot in a printed area (a void hickey) or a solid printed area
                   ringed by a blank unprinted area (a doughnut hickey).
                   </xs:documentation>
2657             </xs:annotation>
2658         </xs:enumeration>
2659         <xs:enumeration value="bullseye">
2660             <xs:annotation>
2661                 <xs:documentation xml:lang="en">Bullseye: printing defect which is
                   characterized by circular voids.</xs:documentation>
2662             </xs:annotation>
2663         </xs:enumeration>
2664         <xs:enumeration value="streak">
2665             <xs:annotation>
2666                 <xs:documentation xml:lang="en">Streak: printing defect which is
                   characterized by a mark or band of a different substance or color
                   from its surroundings.</xs:documentation>
2667             </xs:annotation>
2668         </xs:enumeration>
2669         <xs:enumeration value="scratch">
2670             <xs:annotation>
2671                 <xs:documentation xml:lang="en">Scratch: printing defect which is
                   characterized by a score or damage to the surface of the substrate
                   on which an image is printed.</xs:documentation>
2672             </xs:annotation>
2673         </xs:enumeration>
2674         <xs:enumeration value="line">
2675             <xs:annotation>
2676                 <xs:documentation xml:lang="en">Line: printing defect which is
                   characterized by a very thin band of a different substance or color
                   from its surroundings.</xs:documentation>
2677             </xs:annotation>
2678         </xs:enumeration>
2679         <xs:enumeration value="slur">
2680             <xs:annotation>
2681                 <xs:documentation xml:lang="en">Slur: printing defect which is
                   characterized by a blur on the image, often caused by movement of
                   the paper.
2682                 </xs:documentation>
2683             </xs:annotation>
2684         </xs:enumeration>
2685         <xs:enumeration value="other">
2686             <xs:annotation>
2687                 <xs:documentation xml:lang="en">Other Defect: printing defect not
                   included in the PQX standard defect list.</xs:documentation>
2688             </xs:annotation>

```

```

2689         </xs:enumeration>
2690     </xs:restriction>
2691 </xs:simpleType>
2692 <!--====          =====>
2693 <!--====      Ink Type      Type      =====>
2694 <!--====          =====>
2695 <xs:simpleType name="inkTypeType">
2696     <xs:annotation>
2697         <xs:documentation xml:lang="en">PQX datatype made up of standard ink types
2698         </xs:documentation>
2699     </xs:annotation>
2700     <xs:restriction base="xs:NMTOKEN">
2701         <xs:enumeration value="solventBasedDye">
2702             <xs:annotation>
2703                 <xs:documentation xml:lang="en">Solvent Based Ink Type: an ink that
2704                 carries a colorant in a solvent such as a ketone.
2705                 </xs:documentation>
2706             </xs:annotation>
2707         </xs:enumeration>
2708         <xs:enumeration value="waterBasedDye">
2709             <xs:annotation>
2710                 <xs:documentation xml:lang="en">Water Based Ink Type: an ink that
2711                 carries a colorant in water.</xs:documentation>
2712             </xs:annotation>
2713         </xs:enumeration>
2714         <xs:enumeration value="solventBasedPigment">
2715             <xs:annotation>
2716                 <xs:documentation xml:lang="en">Solvent Based Ink Type: an ink that
2717                 carries a colorant in a solvent such as a ketone.
2718                 </xs:documentation>
2719             </xs:annotation>
2720         </xs:enumeration>
2721         <xs:enumeration value="waterBasedPigment">
2722             <xs:annotation>
2723                 <xs:documentation xml:lang="en">Water Based Ink Type: an ink that
2724                 carries a colorant in water.</xs:documentation>
2725             </xs:annotation>
2726         </xs:enumeration>
2727         <xs:enumeration value="UVCured">
2728             <xs:annotation>
2729                 <xs:documentation xml:lang="en">UV-Cured Ink Type: an ink that is
2730                 cured with UV.</xs:documentation>
2731             </xs:annotation>
2732         </xs:enumeration>
2733         <xs:enumeration value="eBeamCured">
2734             <xs:annotation>
2735                 <xs:documentation xml:lang="en">eBeam-Cured Ink Type: an ink that
2736                 is cured with eBeams.</xs:documentation>
2737             </xs:annotation>
2738         </xs:enumeration>
2739         <xs:enumeration value="latex">
2740             <xs:annotation>
2741                 <xs:documentation xml:lang="en">Latex Ink Type: an ink that is
2742                 latex based.</xs:documentation>
2743             </xs:annotation>
2744         </xs:enumeration>
2745         <xs:enumeration value="dryToner">
2746             <xs:annotation>
2747                 <xs:documentation xml:lang="en">Dry Toner Ink Type: a laser printer
2748                 ink that is powder-based</xs:documentation>
2749             </xs:annotation>
2750         </xs:enumeration>
2751         <xs:enumeration value="liquidToner">
2752             <xs:annotation>
2753                 <xs:documentation xml:lang="en">Liquid Toner Ink Type: a laser
2754                 printer ink that is fluid-based</xs:documentation>

```

```

2745         </xs:annotation>
2746     </xs:enumeration>
2747     <xs:enumeration value="other">
2748         <xs:annotation>
2749             <xs:documentation xml:lang="en">Other Ink Type: an ink type that is
                not defined by listed ink type values</xs:documentation>
2750         </xs:annotation>
2751     </xs:enumeration>
2752 </xs:restriction>
2753 </xs:simpleType>
2754 <!--====>
2755 <!--==== Ink Channel Name Type >
2756 <!--====>
2757 <xs:simpleType name="inkChannelNameType">
2758     <xs:annotation>
2759         <xs:documentation xml:lang="en">PQX datatype made up of the union of
            standard ink channel name types and a user-defined custom value
        </xs:documentation>
2760     </xs:annotation>
2761     <xs:restriction base="xs:NMTOKEN">
2762         <xs:enumeration value="cyan">
2763             <xs:annotation>
2764                 <xs:documentation xml:lang="en">Cyan Channel: The cyan ink channel.
2765                 </xs:documentation>
2766             </xs:annotation>
2767         </xs:enumeration>
2768         <xs:enumeration value="magenta">
2769             <xs:annotation>
2770                 <xs:documentation xml:lang="en">Magenta Channel: The magenta ink
                    channel.
2771                 </xs:documentation>
2772             </xs:annotation>
2773         </xs:enumeration>
2774         <xs:enumeration value="yellow">
2775             <xs:annotation>
2776                 <xs:documentation xml:lang="en">Yellow Channel: The yellow ink
                    channel.
2777                 </xs:documentation>
2778             </xs:annotation>
2779         </xs:enumeration>
2780         <xs:enumeration value="black">
2781             <xs:annotation>
2782                 <xs:documentation xml:lang="en">Black Channel: The black ink channel.
2783                 </xs:documentation>
2784             </xs:annotation>
2785         </xs:enumeration>
2786         <xs:enumeration value="orange">
2787             <xs:annotation>
2788                 <xs:documentation xml:lang="en">Orange Channel: The orange ink
                    channel.
2789                 </xs:documentation>
2790             </xs:annotation>
2791         </xs:enumeration>
2792         <xs:enumeration value="violet">
2793             <xs:annotation>
2794                 <xs:documentation xml:lang="en">Violet Channel: The violet ink
                    channel.
2795                 </xs:documentation>
2796             </xs:annotation>
2797         </xs:enumeration>
2798         <xs:enumeration value="red">
2799             <xs:annotation>
2800                 <xs:documentation xml:lang="en">Red Channel: The red ink channel.
2801                 </xs:documentation>
2802             </xs:annotation>
2803         </xs:enumeration>

```



```

2804     <xs:enumeration value="blue">
2805         <xs:annotation>
2806             <xs:documentation xml:lang="en">Blue Channel: The blue ink channel.
2807             </xs:documentation>
2808         </xs:annotation>
2809     </xs:enumeration>
2810     <xs:enumeration value="green">
2811         <xs:annotation>
2812             <xs:documentation xml:lang="en">Green Channel: The green ink channel.
2813             </xs:documentation>
2814         </xs:annotation>
2815     </xs:enumeration>
2816     <xs:enumeration value="spot">
2817         <xs:annotation>
2818             <xs:documentation xml:lang="en">Spot Color Channel: A spot color
2819             ink channel.</xs:documentation>
2820         </xs:annotation>
2821     </xs:enumeration>
2822     <xs:enumeration value="coating">
2823         <xs:annotation>
2824             <xs:documentation xml:lang="en">Coating Channel: An ink channel for
2825             a coating or varnish.</xs:documentation>
2826         </xs:annotation>
2827     </xs:enumeration>
2828     <xs:enumeration value="other">
2829         <xs:annotation>
2830             <xs:documentation xml:lang="en">Other Channel: A non-standard ink
2831             channel type.</xs:documentation>
2832         </xs:annotation>
2833     </xs:enumeration>
2834 </xs:restriction>
2835 </xs:simpleType>
2836 <!--====>
2837 <!--====>
2838 <!--====>
2839 <!--====>
2840 <!--====>
2841 <!--====>
2842 <!--====>
2843 <!--====>
2844 <!--====>
2845 <!--====>
2846 <!--====>
2847 <!--====>
2848 <!--====>
2849 <!--====>
2850 <!--====>
2851 <!--====>
2852 <!--====>
2853 <!--====>
2854 <!--====>
2855 <!--====>
2856 <!--====>
2857 <!--====>
2858 <!--====>

```

```

2859      <!--====          =====>
2860      <!--====      Linear UoM Type      =====>
2861      <!--====          =====>
2862      <xs:simpleType name="linearUoMType">
2863          <xs:annotation>
2864              <xs:documentation xml:lang="en">PQX datatype made up of a list of standard
                length and area measurement types</xs:documentation>
2865          </xs:annotation>
2866          <xs:restriction base="xs:NMTOKEN">
2867              <xs:enumeration value="ft">
2868                  <xs:annotation>
2869                      <xs:documentation xml:lang="en">Foot Type: abbreviation for foot
2870                  </xs:documentation>
2871                  </xs:annotation>
2872              </xs:enumeration>
2873              <xs:enumeration value="in">
2874                  <xs:annotation>
2875                      <xs:documentation xml:lang="en">Inch Type: abbreviation for inch
2876                  </xs:documentation>
2877                  </xs:annotation>
2878              </xs:enumeration>
2879              <xs:enumeration value="mil">
2880                  <xs:annotation>
2881                      <xs:documentation xml:lang="en">Thou Type: abbreviation for .001 inch
2882                  </xs:documentation>
2883                  </xs:annotation>
2884              </xs:enumeration>
2885              <xs:enumeration value="yd">
2886                  <xs:annotation>
2887                      <xs:documentation xml:lang="en">Yard Type: abbreviation for yard
2888                  </xs:documentation>
2889                  </xs:annotation>
2890              </xs:enumeration>
2891              <xs:enumeration value="m">
2892                  <xs:annotation>
2893                      <xs:documentation xml:lang="en">MeterType: abbreviation for meter
2894                  </xs:documentation>
2895                  </xs:annotation>
2896              </xs:enumeration>
2897              <xs:enumeration value="cm">
2898                  <xs:annotation>
2899                      <xs:documentation xml:lang="en">Centimeter Type: abbreviation for
                centimeter
2900                      </xs:documentation>
2901                      </xs:annotation>
2902              </xs:enumeration>
2903              <xs:enumeration value="mm">
2904                  <xs:annotation>
2905                      <xs:documentation xml:lang="en">Millimeter Type: abbreviation for
                millimeter
2906                      </xs:documentation>
2907                      </xs:annotation>
2908              </xs:enumeration>
2909              <xs:enumeration value="nm">
2910                  <xs:annotation>
2911                      <xs:documentation xml:lang="en">Nanometer Type: abbreviation for
                nanometer
2912                      </xs:documentation>
2913                      </xs:annotation>
2914              </xs:enumeration>
2915              <xs:enumeration value="um">
2916                  <xs:annotation>
2917                      <xs:documentation xml:lang="en">Micrometer Type: abbreviation for
                micron
2918                      </xs:documentation>
2919                      </xs:annotation>

```

```
2920     </xs:enumeration>
2921     <xs:enumeration value="ft2">
2922         <xs:annotation>
2923             <xs:documentation xml:lang="en">Square foot Type: abbreviation for
                square foot
2924             </xs:documentation>
2925         </xs:annotation>
2926     </xs:enumeration>
2927     <xs:enumeration value="in2">
2928         <xs:annotation>
2929             <xs:documentation xml:lang="en">Sqare Inch Type: abbreviation for
                square inch
2930             </xs:documentation>
2931         </xs:annotation>
2932     </xs:enumeration>
2933     <xs:enumeration value="yd2">
2934         <xs:annotation>
2935             <xs:documentation xml:lang="en">Square Yard Type: abbreviation for
                square yard
2936             </xs:documentation>
2937         </xs:annotation>
2938     </xs:enumeration>
2939     <xs:enumeration value="m2">
2940         <xs:annotation>
2941             <xs:documentation xml:lang="en">Square Meter Type: abbreviation for
                square meter
2942             </xs:documentation>
2943         </xs:annotation>
2944     </xs:enumeration>
2945     <xs:enumeration value="cm2">
2946         <xs:annotation>
2947             <xs:documentation xml:lang="en">Square Centimeter Type:
                abbreviation for square centimeter
2948             </xs:documentation>
2949         </xs:annotation>
2950     </xs:enumeration>
2951     <xs:enumeration value="mm2">
2952         <xs:annotation>
2953             <xs:documentation xml:lang="en">Square Millimeter Type:
                abbreviation for square millimeter
2954             </xs:documentation>
2955         </xs:annotation>
2956     </xs:enumeration>
2957     <xs:enumeration value="nm2">
2958         <xs:annotation>
2959             <xs:documentation xml:lang="en">Square Nanometer Type: abbreviation
                for square nanometer
2960             </xs:documentation>
2961         </xs:annotation>
2962     </xs:enumeration>
2963     <xs:enumeration value="um2">
2964         <xs:annotation>
2965             <xs:documentation xml:lang="en">Square Micrometer Type:
                abbreviation for square micron
2966             </xs:documentation>
2967         </xs:annotation>
2968     </xs:enumeration>
2969     <xs:enumeration value="pt">
2970         <xs:annotation>
2971             <xs:documentation xml:lang="en">Point Type: abbreviation for
                relative measure of point
2972             </xs:documentation>
2973         </xs:annotation>
2974     </xs:enumeration>
2975     <xs:enumeration value="pc">
2976         <xs:annotation>
```

```

2977         <xs:documentation xml:lang="en">Pica Type: abbreviation for
                relative measure of pica
2978         </xs:documentation>
2979     </xs:annotation>
2980 </xs:enumeration>
2981 <xs:enumeration value="ln">
2982     <xs:annotation>
2983         <xs:documentation xml:lang="en">Line Type: abbreviation for
                relative measure of a line
2984         </xs:documentation>
2985     </xs:annotation>
2986 </xs:enumeration>
2987 </xs:restriction>
2988 </xs:simpleType>
2989 <!--===          =====>
2990 <!--===      Meterage UoM Type          =====>
2991 <!--===          =====>
2992 <xs:simpleType name="meterageUoMType">
2993     <xs:annotation>
2994         <xs:documentation xml:lang="en">PQX datatype made up of a list of standard
                length measurement types</xs:documentation>
2995     </xs:annotation>
2996     <xs:restriction base="xs:NMTOKEN">
2997         <xs:enumeration value="ft">
2998             <xs:annotation>
2999                 <xs:documentation xml:lang="en">Foot Type: abbreviation for foot
3000                 </xs:documentation>
3001             </xs:annotation>
3002         </xs:enumeration>
3003         <xs:enumeration value="in">
3004             <xs:annotation>
3005                 <xs:documentation xml:lang="en">Inch Type: abbreviation for inch
3006                 </xs:documentation>
3007             </xs:annotation>
3008         </xs:enumeration>
3009         <xs:enumeration value="yd">
3010             <xs:annotation>
3011                 <xs:documentation xml:lang="en">Yard Type: abbreviation for yard
3012                 </xs:documentation>
3013             </xs:annotation>
3014         </xs:enumeration>
3015         <xs:enumeration value="m">
3016             <xs:annotation>
3017                 <xs:documentation xml:lang="en">MeterType: abbreviation for meter
3018                 </xs:documentation>
3019             </xs:annotation>
3020         </xs:enumeration>
3021         <xs:enumeration value="cm">
3022             <xs:annotation>
3023                 <xs:documentation xml:lang="en">Centimeter Type: abbreviation for
                centimeter
3024                 </xs:documentation>
3025             </xs:annotation>
3026         </xs:enumeration>
3027         <xs:enumeration value="mm">
3028             <xs:annotation>
3029                 <xs:documentation xml:lang="en">Millimeter Type: abbreviation for
                millimeter
3030                 </xs:documentation>
3031             </xs:annotation>
3032         </xs:enumeration>
3033         <xs:enumeration value="nm">
3034             <xs:annotation>
3035                 <xs:documentation xml:lang="en">Nanometer Type: abbreviation for
                nanometer
3036                 </xs:documentation>

```

```

3037         </xs:annotation>
3038     </xs:enumeration>
3039     <xs:enumeration value="um">
3040         <xs:annotation>
3041             <xs:documentation xml:lang="en">Micrometer Type: abbreviation for
                micron
3042             </xs:documentation>
3043         </xs:annotation>
3044     </xs:enumeration>
3045     <xs:enumeration value="pt">
3046         <xs:annotation>
3047             <xs:documentation xml:lang="en">Point Type: abbreviation for
                relative measure of point
3048             </xs:documentation>
3049         </xs:annotation>
3050     </xs:enumeration>
3051     <xs:enumeration value="pc">
3052         <xs:annotation>
3053             <xs:documentation xml:lang="en">Pica Type: abbreviation for
                relative measure of pica
3054             </xs:documentation>
3055         </xs:annotation>
3056     </xs:enumeration>
3057     <xs:enumeration value="ln">
3058         <xs:annotation>
3059             <xs:documentation xml:lang="en">Line Type: abbreviation for
                relative measure of a line
3060             </xs:documentation>
3061         </xs:annotation>
3062     </xs:enumeration>
3063     <xs:enumeration value="items">
3064         <xs:annotation>
3065             <xs:documentation xml:lang="en">Item Type: measure of the number of
                printed items such as cans, bottles, sheets, etc.
3066             </xs:documentation>
3067         </xs:annotation>
3068     </xs:enumeration>
3069 </xs:restriction>
3070 </xs:simpleType>
3071 <!--====                               =====>
3072 <!--====      Unit of Time Type      =====>
3073 <!--====                               =====>
3074 <xs:simpleType name="uoTimeType">
3075     <xs:annotation>
3076         <xs:documentation xml:lang="en">PQX datatype made up of a list of standard
            time measurement types</xs:documentation>
3077     </xs:annotation>
3078     <xs:restriction base="xs:NMTOKEN">
3079         <xs:enumeration value="s">
3080             <xs:annotation>
3081                 <xs:documentation xml:lang="en">Second Type: abbreviation for second
3082                 </xs:documentation>
3083             </xs:annotation>
3084         </xs:enumeration>
3085         <xs:enumeration value="min">
3086             <xs:annotation>
3087                 <xs:documentation xml:lang="en">Minute Type: abbreviation for minute
3088                 </xs:documentation>
3089             </xs:annotation>
3090         </xs:enumeration>
3091         <xs:enumeration value="hr">
3092             <xs:annotation>
3093                 <xs:documentation xml:lang="en">Hour Type: abbreviation for hour
3094                 </xs:documentation>
3095             </xs:annotation>
3096         </xs:enumeration>

```

```

3097         <xs:enumeration value="d">
3098             <xs:annotation>
3099                 <xs:documentation xml:lang="en">Day Type: abbreviation for day
3100                 </xs:documentation>
3101             </xs:annotation>
3102         </xs:enumeration>
3103     </xs:restriction>
3104 </xs:simpleType>
3105 <!--====>
3106 <!--==== Reference Type >
3107 <!--====>
3108 <xs:simpleType name="referenceType">
3109     <xs:annotation>
3110         <xs:documentation xml:lang="en">PQX datatype made up of defect
3111         determination reference types</xs:documentation>
3112     </xs:annotation>
3113     <xs:restriction base="xs:NMTOKEN">
3114         <xs:enumeration value="prepressFile">
3115             <xs:annotation>
3116                 <xs:documentation xml:lang="en">Defect Prepress Reference: Defect
3117                 evaluation was made by comparison to a reference prepress file such
3118                 as a pdf or JPG image.
3119             </xs:documentation>
3120             </xs:annotation>
3121         </xs:enumeration>
3122         <xs:enumeration value="okSheet">
3123             <xs:annotation>
3124                 <xs:documentation xml:lang="en">defect evaluation was made by
3125                 comparison to a printed item designated as the "OK Sheet". The "OK
3126                 Sheet" may be from a previous press run.
3127             </xs:documentation>
3128             </xs:annotation>
3129         </xs:enumeration>
3130     </xs:restriction>
3131 </xs:simpleType>
3132 <!--====>
3133 <!--==== Barcode Symbol Type >
3134 <!--====>
3135 <!--====>
3136 <xs:simpleType name="barcodeSymbolType">
3137     <xs:annotation>
3138         <xs:documentation xml:lang="en">PQX datatype made up of the union of
3139         standard barcode symbol types and a user-defined custom value
3140     </xs:documentation>
3141     </xs:annotation>
3142     <xs:restriction base="xs:string">
3143         <xs:enumeration value="AztecCode">
3144             <xs:annotation>
3145                 <xs:documentation xml:lang="en">Aztec Code: a type of 2D barcode
3146                 published as ISO/IEC 24778:2008 standard. Named after the
3147                 resemblance of the central finder pattern to an Aztec pyramid,
3148                 Aztec code has the potential to use less space than other matrix
3149                 barcodes because it does not require a surrounding blank "quiet
3150                 zone".</xs:documentation>
3151             </xs:annotation>
3152         </xs:enumeration>
3153         <xs:enumeration value="Codabar">
3154             <xs:annotation>
3155                 <xs:documentation xml:lang="en">Codabar: (also called Ames Code,
3156                 Code 2 of 7, NW-7, USD-4, and other names) was developed in 1972 by

```

Pitney Bowes. The barcode was designed to be accurately read even when printed by dot matrix and impact printers (the most common print technology in use in the early 1970's).</xs:documentation>

```
3149     </xs:annotation>
3150 </xs:enumeration>
3151 <xs:enumeration value="Code11">
3152     <xs:annotation>
3153         <xs:documentation xml:lang="en">Code 11: barcode symbology
            developed by Intermec in 1977. It is used primarily in
            telecommunications. The symbol can encode any length string
            consisting of the digits 0-9 and the dash character (-).
3154     </xs:documentation>
3155     </xs:annotation>
3156 </xs:enumeration>
3157 <xs:enumeration value="Code128">
3158     <xs:annotation>
3159         <xs:documentation xml:lang="en">Code 128: high-density linear
            barcode symbology. It is used for alphanumeric or numeric-only
            barcodes. It can encode all 128 characters of ASCII and, by use of
            an extension symbol (FNC4), the Latin-1 characters defined in
            ISO/IEC 8859-1.</xs:documentation>
3160     </xs:annotation>
3161 </xs:enumeration>
3162 <xs:enumeration value="Code39">
3163     <xs:annotation>
3164         <xs:documentation xml:lang="en">Code 39: (also known as Alpha39,
            Code 3 of 9, Code 3/9, Type 39, USS Code 39, or USD-3) is a
            variable length, discrete barcode symbology defining 43 characters.
            </xs:documentation>
3165     </xs:annotation>
3166 </xs:enumeration>
3167 <xs:enumeration value="Code32">
3168     <xs:annotation>
3169         <xs:documentation xml:lang="en">Code 32: was used all over Italy
            for the encoding of pharmaceutical products.</xs:documentation>
3170     </xs:annotation>
3171 </xs:enumeration>
3172 <xs:enumeration value="CrontoSign">
3173     <xs:annotation>
3174         <xs:documentation xml:lang="en">CrontoSign: graphical cryptogram
            consisting of a matrix of colored dots used to secure banking
            transactions.</xs:documentation>
3175     </xs:annotation>
3176 </xs:enumeration>
3177 <xs:enumeration value="Pharmacode">
3178     <xs:annotation>
3179         <xs:documentation xml:lang="en">Pharmacode: 1D barcode used mainly
            in the pharmaceutical manufacturing.
3180     </xs:documentation>
3181     </xs:annotation>
3182 </xs:enumeration>
3183 <xs:enumeration value="ExtendedCode39">
3184     <xs:annotation>
3185         <xs:documentation xml:lang="en">Extended Code 39: (also known as
            Alpha39, Code 3 of 9, Code 3/9, Type 39, USS Code 39, or USD-3) is
            a variable length, discrete barcode symbology.</xs:documentation>
3186     </xs:annotation>
3187 </xs:enumeration>
3188 <xs:enumeration value="Code49">
3189     <xs:annotation>
3190         <xs:documentation xml:lang="en">Code 49: stacked symbol containing
            between 2 and 8 rows, each separated by a separator bar. Each row
            contains 16 "words" (which are generated from character pairs) and
            a start and stop character. The last row also contains the number
            of rows in the symbol and the check digit characters.
            </xs:documentation>
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3191         </xs:annotation>
3192     </xs:enumeration>
3193     <xs:enumeration value="Code93">
3194         <xs:annotation>
3195             <xs:documentation xml:lang="en">Code 93: barcode symbology designed
                in 1982 by Intermec to provide a higher density and data security
                enhancement to Code 39. It is an alphanumeric, variable length
                symbology. Code 93 is used primarily by Canada Post to encode
                supplementary delivery information.</xs:documentation>
3196         </xs:annotation>
3197     </xs:enumeration>
3198     <xs:enumeration value="CompositeCode">
3199         <xs:annotation>
3200             <xs:documentation xml:lang="en">Composite Code: 2D barcode symbol
                included above a DataBar, UPC, EAN, or Code 128 barcode to encode
                additional data.</xs:documentation>
3201         </xs:annotation>
3202     </xs:enumeration>
3203     <xs:enumeration value="CPCBinary">
3204         <xs:annotation>
3205             <xs:documentation xml:lang="en">CPC Binary Barcode: Canada Post's
                proprietary symbology used in its automated mail sortation
                operations. </xs:documentation>
3206         </xs:annotation>
3207     </xs:enumeration>
3208     <xs:enumeration value="DataMatrix">
3209         <xs:annotation>
3210             <xs:documentation xml:lang="en">Data Matrix: two-dimensional matrix
                barcode consisting of black and white "cells" or modules arranged
                in either a square or rectangular pattern encoding either text or
                numeric data.</xs:documentation>
3211         </xs:annotation>
3212     </xs:enumeration>
3213     <xs:enumeration value="EAN-2">
3214         <xs:annotation>
3215             <xs:documentation xml:lang="en">EAN-2: isupplement to the EAN-13
                and UPC-A barcodes. It is often used on magazines and periodicals
                to indicate an issue number. </xs:documentation>
3216         </xs:annotation>
3217     </xs:enumeration>
3218     <xs:enumeration value="EAN-5">
3219         <xs:annotation>
3220             <xs:documentation xml:lang="en">EAN-5: 5 digit supplement to the
                EAN-13 barcode used on books.</xs:documentation>
3221         </xs:annotation>
3222     </xs:enumeration>
3223     <xs:enumeration value="EAN-8">
3224         <xs:annotation>
3225             <xs:documentation xml:lang="en">EAN-8: barcode and is derived from
                the longer International Article Number (EAN-13) code used on small
                packages.</xs:documentation>
3226         </xs:annotation>
3227     </xs:enumeration>
3228     <xs:enumeration value="EAN-13">
3229         <xs:annotation>
3230             <xs:documentation xml:lang="en">EAN-13: superset of the original
                12-digit Universal Product Code (UPC-A) standard with 3 added
                digits to indicate country and product.</xs:documentation>
3231         </xs:annotation>
3232     </xs:enumeration>
3233     <xs:enumeration value="EANBookland">
3234         <xs:annotation>
3235             <xs:documentation xml:lang="en">Bookland EAN barcode: two barcodes
                placed next to each other, usually used to code the retail price of
                the book. On the left is a large barcode generated by the book's
                ISBN, while on the right, a smaller barcode accommodating only 5

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3236         digits.</xs:documentation>
3237     </xs:annotation>
3238 </xs:enumeration>
3239 <xs:enumeration value="HAN-XINBarcode">
3240     <xs:annotation>
3241         <xs:documentation xml:lang="en">Han Xin barcode is a 2D barcode
3242         developed by China for the encoding the Chinese characters and
3243         other text information efficiently.</xs:documentation>
3244     </xs:annotation>
3245 </xs:enumeration>
3246 <xs:enumeration value="HighCapacityColorBarcode">
3247     <xs:annotation>
3248         <xs:documentation xml:lang="en">High Capacity Color Barcode: (HCCB)
3249         is a technology developed by Microsoft for encoding data in a 2D
3250         "barcode" using clusters of colored triangles instead of the square
3251         pixels conventionally associated with 2D barcodes or QR codes.
3252     </xs:documentation>
3253 </xs:annotation>
3254 </xs:enumeration>
3255 <xs:enumeration value="IntelligentMailBarcode">
3256     <xs:annotation>
3257         <xs:documentation xml:lang="en">The Intelligent Mail Barcode: (IM
3258         barcode) is a 65-bar code for use to efficiently deliver mail in
3259         the United States.
3260     </xs:documentation>
3261 </xs:annotation>
3262 </xs:enumeration>
3263 <xs:enumeration value="Industrial2of5">
3264     <xs:annotation>
3265         <xs:documentation xml:lang="en">Industrial 2 of 5: 1D barcode where
3266         each character consists of 2 wide Elements out of 5 barcode
3267         elements.Also known as Interleaved 2 of 5.</xs:documentation>
3268     </xs:documentation>
3269 </xs:annotation>
3270 </xs:enumeration>
3271 <xs:enumeration value="Interleaved2of5">
3272     <xs:annotation>
3273         <xs:documentation xml:lang="en">Interleaved 2of5: 1D barcode with
3274         nine functional characters (123456789) and one symbol check
3275         character (5).</xs:documentation>
3276     </xs:documentation>
3277 </xs:annotation>
3278 </xs:enumeration>
3279 <xs:enumeration value="ITF-14">
3280     <xs:annotation>
3281         <xs:documentation xml:lang="en">ITF 14: 1D barcode symbology which
3282         is derived from interleaved 2 of 5 and easily encodes 14 digits.
3283     </xs:documentation>
3284 </xs:annotation>
3285 </xs:enumeration>
3286 <xs:enumeration value="JAN">
3287     <xs:annotation>
3288         <xs:documentation xml:lang="en">JAN: thirteen-digit EAN-13 where a
3289         prefix with the first two digits of "45" or "49" indicates a
3290         Japanese Article Number.</xs:documentation>
3291     </xs:documentation>
3292 </xs:annotation>
3293 </xs:enumeration>
3294 <xs:enumeration value="KarTrak">
3295     <xs:annotation>
3296         <xs:documentation xml:lang="en">KarTrak: sometimes KarTrak ACI (for
3297         Automatic Car Identification) is a colored bar code system designed
3298         to automatically identify rail cars and other rolling stock.
3299     </xs:documentation>
3300 </xs:annotation>
3301 </xs:enumeration>
3302 <xs:enumeration value="LOGMARS">
3303     <xs:annotation>
3304         <xs:documentation xml:lang="en">LOGMARS: stands for Logistics

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Applications of Automated Marking and Reading Symbols. It is a variation of code 39 as defined in Military Standard MIL-STD-1189B.

</xs:documentation>

3282 </xs:annotation>

3283 </xs:enumeration>

3284 <xs:enumeration value="MaxiCode">

3285 <xs:annotation>

3286 <xs:documentation xml:lang="en">MaxiCode: barcode used mainly by UPS (United Parcel Service) for sorting and tracking packages. Also known as maxi code, the MaxiCode specification is a 1-inch square that can store up to 83 characters of information.</xs:documentation>

3287 </xs:annotation>

3288 </xs:enumeration>

3289 <xs:enumeration value="MMCC">

3290 <xs:annotation>

3291 <xs:documentation xml:lang="en">MMCC; mobile multi-coloured composite (MMCC) is a two dimensional coloured barcode designed to distribute media via traditional print media, without the need for network connectivity. </xs:documentation>

3292 </xs:annotation>

3293 </xs:enumeration>

3294 <xs:enumeration value="MSIPlessey">

3295 <xs:annotation>

3296 <xs:documentation xml:lang="en">MSI: (also known as Modified Plessey) is a barcode symbology developed by the MSI Data Corporation, based on the original Plessey Code symbology. It is a continuous symbology that is not self-checking. MSI is used primarily for inventory control, marking storage containers and shelves in warehouse environments.</xs:documentation>

3297 </xs:annotation>

3298 </xs:enumeration>

3299 <xs:enumeration value="OPCOpticalIndustryAssociation">

3300 <xs:annotation>

3301 <xs:documentation xml:lang="en">OPC: barcode for marking retail optical products.</xs:documentation>

3302 </xs:annotation>

3303 </xs:enumeration>

3304 <xs:enumeration value="PDF-417">

3305 <xs:annotation>

3306 <xs:documentation xml:lang="en">PDF417: is a stacked linear barcode symbol format used in a variety of applications, primarily transport, identification cards, and inventory management. PDF stands for Portable Data File. The 417 signifies that each pattern in the code consists of 4 bars and spaces, and that each pattern is 17 units long.</xs:documentation>

3307 </xs:annotation>

3308 </xs:enumeration>

3309 <xs:enumeration value="Plessey">

3310 <xs:annotation>

3311 <xs:documentation xml:lang="en">Plessey Code is a 1D barcode used in some libraries and for shelf tags in retail stores to support internal stock control. </xs:documentation>

3312 </xs:annotation>

3313 </xs:enumeration>

3314 <xs:enumeration value="PostBar">

3315 <xs:annotation>

3316 <xs:documentation xml:lang="en">PostBar, also known as CPC 4-State, is the black-ink barcode system used by Canada Post in its automated mail sorting and delivery operations.</xs:documentation>

3317 </xs:annotation>

3318 </xs:enumeration>

3319 <xs:enumeration value="POSTNET">

3320 <xs:annotation>

3321 <xs:documentation xml:lang="en">POSTNET (Postal Numeric Encoding Technique) is a barcode symbology used by the United States Postal Service to assist in directing mail. The ZIP Code or ZIP+4 code is

```

3322         encoded in half- and full-height bars.</xs:documentation>
3323     </xs:annotation>
3324 </xs:enumeration>
3325 <xs:enumeration value="QRCode">
3326     <xs:annotation>
3327         <xs:documentation xml:lang="en">QR Code (Quick Response Code) is a
3328         machine-readable code consisting of an array of black and white
3329         squares, typically used for storing URLs or other information for
3330         reading by the camera on a smartphone.</xs:documentation>
3331     </xs:annotation>
3332 </xs:enumeration>
3333 <xs:enumeration value="SCC-14">
3334     <xs:annotation>
3335         <xs:documentation xml:lang="en">SCC 14 barcode or Shipping
3336         Container Code is a 14-digit number assigned to fixed content
3337         shipping containers. </xs:documentation>
3338     </xs:annotation>
3339 </xs:enumeration>
3340 <xs:enumeration value="Standard2of5">
3341     <xs:annotation>
3342         <xs:documentation xml:lang="en">Standard 2 of 5 is a very simple
3343         symbology in that all encoding information is encoded in the width
3344         of the bars. The spaces in the barcode exist only to separate the
3345         bars themselves. Additionally, a bar may either be wide or narrow,
3346         a wide bar generally being 3 times as wide as a narrow bar.
3347     </xs:documentation>
3348 </xs:annotation>
3349 </xs:enumeration>
3350 <xs:enumeration value="Telepen">
3351     <xs:annotation>
3352         <xs:documentation xml:lang="en">Telepen is a name of a barcode
3353         symbology designed in 1972 in the UK to express all 128 ASCII
3354         characters without using shift characters for code switching, and
3355         using only two different widths for bars and spaces.
3356     </xs:documentation>
3357 </xs:annotation>
3358 </xs:enumeration>
3359 <xs:enumeration value="UCC/EAN-128">
3360     <xs:annotation>
3361         <xs:documentation xml:lang="en">GS1-128 is an application standard
3362         of the GS1 implementation using the Code 128 barcode specification.
3363         The former correct name was UCC/EAN-128. Other no longer used names
3364         have included UCC-128 and EAN-128. GS1-128 uses a series of
3365         Application Identifiers to include additional data such as best
3366         before dates, batch numbers, quantities, weights and many other
3367         attributes needed </xs:documentation>
3368     </xs:annotation>
3369 </xs:enumeration>
3370 <xs:enumeration value="UPC-ITF-14">
3371     <xs:annotation>
3372         <xs:documentation xml:lang="en"> is the GS1 implementation of an
3373         Interleaved 2 of 5 bar code to encode a Global Trade Item Number.
3374         ITF-14 symbols are generally used on packaging levels of a product,
3375         such as a case box of 24 cans of soup. The ITF-14 will always
3376         encode 14 digits.
3377     </xs:documentation>
3378 </xs:annotation>
3379 </xs:enumeration>
3380 <xs:enumeration value="UPC-A">
3381     <xs:annotation>
3382         <xs:documentation xml:lang="en">The Universal Product Code is a 1D
3383         barcode symbology that is widely used in the United States for
3384         tracking trade items in stores, as well as books, magazines, and
3385         newspapers.</xs:documentation>
3386     </xs:annotation>
3387 </xs:enumeration>

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3360         <xs:enumeration value="UPC-E">
3361             <xs:annotation>
3362                 <xs:documentation xml:lang="en">UPC-E is a variation of UPC-A which
                    allows for a more compact barcode by eliminating "extra" zeros.
                    Since the resulting UPC-E barcode is about half the size as an
                    UPC-A barcode, UPC-E is generally used on products with very small
                    packaging where a full UPC-A barcode couldn't reasonably fit.
                </xs:documentation>
            </xs:annotation>
        </xs:enumeration>
3363
3364     <xs:enumeration value="other">
3365         <xs:annotation>
3366             <xs:documentation xml:lang="en">Other is designated for a barcode
3367                 not found on the PQX list of standard barcode types
            </xs:documentation>
        </xs:annotation>
    </xs:enumeration>
3368
3369 </xs:restriction>
3370
3371 </xs:simpleType>
3372
3373 <!--====>
3374 <!--==== Codewords Type >
3375 <!--====>
3376 <xs:simpleType name="codewordsType">
3377     <xs:annotation>
3378         <xs:documentation xml:lang="en">PQX datatype used to define a field
            containing a list of barcode codewords separated by a space; each codeword
            consists of 3 integers
        </xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:string">
    <xs:pattern value="[0{1}1-9{2} {1}]*[0{1}1-9{2}]" />
    </xs:restriction>
</xs:simpleType>
3384
3385 <!--====>
3386 <!--==== zero to 180 Type >
3387 <!--====>
3388 <xs:simpleType name="zero2180Type">
3389     <xs:annotation>
3390         <xs:documentation xml:lang="en">PQX datatype defining the expression
            integers from 0 to 180 for expression of degree of angle</xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:integer">
    <xs:minInclusive value="0" />
    <xs:maxInclusive value="180" />
    </xs:restriction>
</xs:simpleType>
3396
3397 <!--====>
3398 <!--==== 1 to 10 Type >
3399 <!--====>
3400 <xs:simpleType name="one2tenType">
3401     <xs:annotation>
3402         <xs:documentation xml:lang="en">PQX datatype defining the expression
            integers from 0 to 10 for expression of integers between 1 and 10
        </xs:documentation>
    </xs:annotation>
    <xs:restriction base="xs:integer">
    <xs:minInclusive value="1" />
    <xs:maxInclusive value="10" />
    </xs:restriction>
</xs:simpleType>
3408
3409 <!--====>
3410 <!--==== 1 to 2 Type >
3411 <!--====>
3412 <xs:simpleType name="one2twoType">
3413     <xs:annotation>
3414         <xs:documentation xml:lang="en">PQX datatype defining the expression

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3415         integers from 1 to 2</xs:documentation>
3416     </xs:annotation>
3417     <xs:restriction base="xs:integer">
3418         <xs:minInclusive value="1"/>
3419         <xs:maxInclusive value="2"/>
3420     </xs:restriction>
3421 </xs:simpleType>
3422 <!--====>
3423 <!--====>
3424 <!--====>
3425     <xs:simpleType name="numericGradeType">
3426         <xs:annotation>
3427             <xs:documentation xml:lang="en">PQX datatype defining the expression
3428                 decimals from 0.0 to 4.0</xs:documentation>
3429         </xs:annotation>
3430         <xs:restriction base="xs:decimal">
3431             <xs:totalDigits value="1"/>
3432             <xs:minInclusive value="0.0"/>
3433             <xs:maxInclusive value="4.0"/>
3434         </xs:restriction>
3435     </xs:simpleType>
3436 <!--====>
3437 <!--====>
3438 <!--====>
3439     <xs:simpleType name="alphaGradeType">
3440         <xs:annotation>
3441             <xs:documentation xml:lang="en">PQX datatype defining the expression alpha
3442                 characters A - F</xs:documentation>
3443         </xs:annotation>
3444         <xs:restriction base="xs:NMTOKEN">
3445             <xs:enumeration value="A">
3446                 <xs:annotation>
3447                     <xs:documentation xml:lang="en">The highest grade on a scale of A
3448                         to F.</xs:documentation>
3449                 </xs:annotation>
3450             </xs:enumeration>
3451             <xs:enumeration value="B">
3452                 <xs:annotation>
3453                     <xs:documentation xml:lang="en">The second highest grade on a scale
3454                         of A to F.</xs:documentation>
3455                 </xs:annotation>
3456             </xs:enumeration>
3457             <xs:enumeration value="C">
3458                 <xs:annotation>
3459                     <xs:documentation xml:lang="en">The median grade on a scale of A to
3460                         F.</xs:documentation>
3461                 </xs:annotation>
3462             </xs:enumeration>
3463             <xs:enumeration value="D">
3464                 <xs:annotation>
3465                     <xs:documentation xml:lang="en">The next to lowest grade on a scale
3466                         of A to F.</xs:documentation>
3467                 </xs:annotation>
3468             </xs:enumeration>
3469             <xs:enumeration value="F">
3470                 <xs:annotation>
3471                     <xs:documentation xml:lang="en">The lowest grade on a scale of A to
3472                         F, typically designated as "failing".
3473                 </xs:documentation>
3474             </xs:enumeration>
3475         </xs:restriction>
3476     </xs:simpleType>
3477 </xs:schema>

```