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APPENDIX C TO PART 180—EDDY CURRENT EXAMINATION WITH VISUAL INSPECTION FOR DOT 3AL CYLINDERS MANUFACTURED OF ALUMINUM ALLOY 6351–T6

1. Examination Procedure. Each facility performing eddy current examination with visual inspection must develop, update, and maintain a written examination procedure applicable to the test equipment it uses to perform eddy current examinations.

2. Visual examinations. Visual examinations of the neck and shoulder area of the cylinder must be conducted in accordance with CGA pamphlet C–6.1 (IBB; see §171.7 of this subchapter).

3. Eddy Current Equipment. A reference ring and probe for each DOT–3AL cylinder manufactured of aluminum alloy 6351–T6 to be inspected must be available at the examination facility. Eddy current equipment must be capable of accurately detecting the notches on the standard reference ring.

4. Eddy Current Reference Ring. The reference ring must be produced to represent each cylinder to be tested. The reference ring must include artificial notches to simulate a neck crack. The size of the artificial notch (depth and length) must have a depth less than or equal to 1/3 of the wall thickness of the neck and a length greater than or equal to two threads. The standard reference must have a drawing that includes the diameter of the ring, and depth and length of each notch.

5. Condemnation Criteria. A cylinder must be condemned if the eddy current examination combined with visual examination reveals any crack in the neck or shoulder of 2 thread lengths or more.

6. Examination equipment records. Records of eddy current inspection equipment shall contain the following information:
   (i) Equipment manufacturer, model number and serial number.
   (ii) Probe description and unique identification (e.g., serial number, part number, etc.).

7. Eddy current examination reporting and record retention requirements. Daily records of eddy current examinations must be maintained by the person who performs the requalification until either the expiration of the requalification period or until the cylinder is again requalified, whichever occurs first. These records shall be made available for inspection by a representative of the Department on request. Eddy current examination records shall contain the following information:
   (i) Specification of each standard reference ring used to perform the eddy current examination.
   (ii) DOT specification or exemption number of the cylinder; manufacturer's name or symbol; owner's name or symbol, if present; serial number; and, date of manufacture.
   (iii) Name of test operator performing the eddy current examination.
   (iv) Date of eddy current examination.
   (v) Acceptance/condemnation results (e.g., pass or fail).
   (vi) Retester identification number.

8. Personnel Qualification Requirements. Each person who performs eddy current and visual examinations, and evaluates and certifies retest results must be certified by the employer that he/she has been properly trained and tested in the eddy current and visual examination procedures.

9. Training Records. A record of current training must be maintained for each employee who performs eddy current and visual examinations in accordance with §172.70(h)(4).

[71 FR 51129, Aug. 29, 2006]

APPENDIX D TO PART 180—HAZARDOUS MATERIALS CORROSIVE TO TANKS OR SERVICE EQUIPMENT

This list contains materials identified either by proper shipping name in 49 CFR 172.101 or shipped under an “n.o.s.” shipping description that, under certain conditions, can corrode carbon steel tanks or service equipment at a rate that may reduce the design level of reliability and safety of the tank or equipment to an unsafe level before the next qualification. Materials identified on this list are considered corrosive to the tank or service equipment.

While every effort was made to identify materials deemed corrosive to the tank or service equipment, owners and operators are cautioned that this list may not be inclusive. Tank car owners and operators are reminded of their duty to ensure that no in-service tank will deteriorate below the specified minimum thickness requirements in this subchapter. See §180.509(3). In addition, FRA states a tank car owner must designate an internal coating or lining appropriately based on its knowledge of the chemical and not rely simply on this list. Regarding future thickness tests, this list may also be modified based on an analysis of the test results by the car owner, the Department of Transportation, or the Association of American Railroads’ Tank Car Committee.

Hazardous Materials Table Proper Shipping Names (See §172.101)

| Acetic acid, glacial or Acetic acid solution |
| Aluminum chloride, solution |
| Arsenic acid, liquid |
| Arsenic acid, solid |
| Butyric acid |
| Ferric chloride, solution |
| Fertilizer ammoniating solution (Nitrogen fertilizer solution) |
| Fluoroboric acid |
Fluorosillic acid
Formaldehyde, solutions, flammable
Hydrobromic acid
Hydrochloric acid
Hydrochloric acid solution
Hydrofluoric acid and Sulfuric acid mixtures
Hydrofluoric acid
Hydrogen peroxide and peroxyacetic acid mixtures, stabilized
Hydrogen peroxide, aqueous solutions
Hydrogen peroxide, stabilized or Hydrogen peroxide aqueous solutions, stabilized
Hypochlorite solutions
Nitric acid
Phenyl phosphorus dichloride
Phenyl phosphorus thiodichloride
Phosphoric acid solution
Phosphoric acid, solid
Phosphorus trichloride (Phosphorus chloride)
Sodium chlorate
Sodium chloride, aqueous solution
Sodium hydrosulfide
Sulfur, molten
Sulfuric acid
Sulfuric acid, fuming
Sulfuric acid, spent
Zinc chloride, anhydrous
Zinc chloride, solution

Materials Transported Under an “N.O.S.”

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzoic acid (Environmentally hazardous substance, liquid, n.o.s., (RQ 5,000 pounds))</td>
</tr>
<tr>
<td>Bisulphites, aqueous solution, n.o.s. (Ammonium bisulfide)</td>
</tr>
<tr>
<td>Black liquor (Corrosive liquids, n.o.s. (contains sulfuric acid))</td>
</tr>
<tr>
<td>Calcium lignosulfonate (not regulated under this subchapter)</td>
</tr>
<tr>
<td>Hexanes acid (Corrosive liquids, n.o.s. (contains hexanoic acid))</td>
</tr>
<tr>
<td>Lignin liquor (not regulated under this subchapter)</td>
</tr>
<tr>
<td>Lithium chloride (not regulated under this subchapter)</td>
</tr>
<tr>
<td>Sodium polyacrylate (not regulated under this subchapter)</td>
</tr>
<tr>
<td>Titanium sulfate solution (Corrosive liquids, n.o.s. (contains sulfuric acid))</td>
</tr>
<tr>
<td>White liquor (not regulated under this subchapter)</td>
</tr>
</tbody>
</table>

[77 FR 37991, June 25, 2012]

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