Engineering Brief # 20

Date: November 27, 1978

In Reply Refer To: AAS-200

Subject: Engineering Brief No. 20, Changes to Item F-162, Chain Link Fences

From: Chief, Airports Engineering Division, AAP-580
To: All Regions

Attn: Chiefs, Airports Division

Engineering Brief No. 20, Changes to Item F-162, Chain Link Fences, advises of the availability of a triple coated, high strength steel pipe that can be included as an alternate when specifying posts, rails, and braces for chain link fences.

Any comments you wish to offer on the use of this material will be appreciated.

ORIGINAL SIGNED BY:
J. W. BUSHEE
for
LEONARD E. MUDD

Enclosure

ENGINEERING BRIEF NO. 20

CHANGES TO ITEM F-162, CHAIN LINK FENCES

The purpose of this engineering brief is to advise of the availability of a triple coated, high-strength steel pipe that can be included as an alternate when specifying posts, rails, and braces for chain link fences, under Item F-162, paragraph 162-2.3. In Addition a change to Federal Specification RR-F-181 is noted.

The triple coated pipe is stronger than Schedule 40 fence pipe, yet is lighter in gauge and weight. Corrosion resistance is achieved through in-line application of hot dipped galvanized zinc, followed by a chromate conversion coating and an electrostatically sprayed clean polyurethane finish.

An interim standard for this product is presented below and may be included in project specifications for chain link fences. It will be incorporated into Item F-162, Chain Link Fences, upon revision of this standard.

Polyurethane coated steel pipe shall conform to the requirements listed below:

The pipe shall be manufactured by cold rolling electric resistance welding and shall be given corrosion protection by in-line application of hot-dip galvanized zinc, followed by a chromate conversion coating and electrostatically sprayed polyurethane coating on the outside surface. The inside surface shall be given corrosion protection by in-line application of a full zinc base organic coating after fabrication. The steel strip used in the manufacture of the pipe shall conform to ASTM A 569 or ASTM A 607. The wall thickness shall not be less than that shown on the plans and the product of the yield strength and section modulus of the pipe shall not be less than that of pipe meeting the requirements of ASTM A 120.

The exterior coating of zinc shall meet the requirements of ASTM B 6. The weight of the coating shall be 0.9 + 0.1 ounces per square foot of surface, determined in accordance with ASTM A 90.

The exterior chromate conversion coating weight shall be 30 micro-grams + 10 micro-grams per square inch, determined by a quantitative method.

The exterior polyurethane coating shall be 0.4 + 0. 1 mils in thickness.

The external protective coatings shall be capable of withstanding the following tests.

Weathering	ASTM D 1499	350 hours exposure
Salt Spray	ASTM B 117	500 hours exposure
Humidity	ASTM D 2247	500 hours exposure

The internal base coating shall have a thickness of 0.5 + 0.2 mils applied in-line after welding. The coating shall be 80 percent zinc powder by weight and shall be capable of protecting the metal substrates from corrosion under the following accelerated test.

Salt Spray	ASTM B 117	250 hours

Federal Specification RR-F-181 has been superseded by RR-F-191 G/GEN and all references to RR-F-183 in Item F-162 should be changed accordingly.

ORIGINAL SIGNED BY:
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Civil Engineer