CATALYTIC CONSTRUCTION COMPANY
PHILADELPHIA 8, PA.

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SPECIFICATION No. SP- 31420-1900-00-3
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FIREPROOFING

PLAINTIFF'S EXHIBIT
CHV-26

1.00 SCOPE

1.01 This specification outlines minimum requirements and acceptable materials for fireproofing major equipment and structural supports with a mixture of sand and cement by two methods: namely, pneumatically applied and formed in place.

1.02 Fireproofing may be accomplished by whichever method listed above is considered to be more advantageous by the Subcontractor. However, concrete may be pneumatically applied only at times approved by Catalytic's Field Superintendent. Subcontractor's proposal shall designate which method of application will be used on each item.

2.00 MATERIALS

2.01 Portland Cement: ASTM C150

2.01.1 All cement shall be stored off the ground and protected from the elements. Foreign material shall be prevented from mixing with aggregates.

2.02 Reinforcing: 2" X 2" X 14 gauge galvanized wire mesh conforming to ASTM A-185.

2.03 Aggregates

2.03.1 For fireproofing structural members:

Washed, clean sand, graded evenly from fine to coarse, with no particles larger than 3/8" in diameter.

2.03.2 For fireproofing column and vessel skirts:

Haydite or equal, 0-3/16" size
Vermiculite stabilized concrete aggregate, Zonolite Co. No. 2 or equal.
Masons blend clay, Gladding McBean or equal.

2.04 Water: potable

2.05 Accessories: provide spacers, chairs, ties, and other devices necessary for properly placing, spacing, supporting and fastening reinforcement in place.

2.00 MATERIALS (Cont'd)

2.06 Tie Wire: #16 gauge galvanized steel wire.

2.07 Caulking:

Eagle-Picher "Stalastic"

3.00 SURFACE PREPARATION

3.01 All surfaces to be fireproofed shall be cleaned of loose scale, scaling paint, rust, dirt, oil, grease, and other materials likely to impair the bond between the concrete and the member to be fireproofed.

4.00 CONSTRUCTION AND APPLICATION

4.01 Formed in place

4.01.1 Reinforcement shall be placed as shown in Sections 5.00 of this specification and in Standard Oil of Texas Form EF-168, and shall be secured in place to prevent displacement before or during pouring.

4.01.2 Forms shall be constructed to provide a smooth finish on exposed surfaces and shall be straiht and sufficiently tight to prevent leakage. Forms shall provide for a 3/4 inch chamfer on external corners.

4.01.3 For fireproofing structural members, the proportions of cement, aggregate, and water shall be in accordance with the "Recommended Practice for the Design of Concrete Mixes", ACI 613.

4.01.4 For fireproofing column and vessel skirts, the proportions of cement and aggregates shall be in accordance with Standard Oil Co. of Texas Form EF-168.

4.01.5 All concrete shall be mixed, placed, and cured in accordance with requirements of the American Concrete Institute Building Code. All wood forms shall be thoroughly wet prior to placing concrete.

4.01.6 Upon completion of the work, all forms and form ties shall be removed and all voids, honeycombing, and cavities filled in. Fins and ridges shall be removed.

4.00 CONSTRUCTION AND APPLICATION (Cont'd)

4.02 Pneumatically Applied.

4.02.1 Concrete materials and application methods shall be in accordance with the latest edition of ACI Standard Recommended Practice for the Application of Mortar by Pneumatic Pressure (ACI-805).

4.02.2 For fireproofing structural steel, concrete shall be machine or hand mixed in the proportions of (1) part cement to not more than (4) parts sand by loose volume.

4.02.3 For fireproofing column and vessel skirts, concrete shall be machine or hand mixed to the proportions shown on Standard Oil Company of Texas Form EF-168.

4.02.4. Reinforcement shall be secured in place as shown in Section 6.00 and in Standard Oil Company of Texas Form EF-168. Concrete shall be applied with a cement gun to the specified thickness in two or more layers. The encasement shall follow the outline of the member except on small shapes where plane surfaces are permissible.

4.02.5 Shooting strips must permit the escape of rebound in order to obtain the proper thickness and true lines over all flanges, angles, etc.

4.02.6 The outside surface shall be finished smooth. All finished surfaces shall be straight and true.

4.02.7 Concrete shall be sloped to a thin edge at any stopping point. Remove loose sand and wet previous portions, before applying additional concrete.

4.02.8 Tarpaulins or suitable shields shall be placed where required to prevent drifting and coating adjacent surfaces. All openings in piping or equipment shall be temporarily covered to prevent the entrance of any material.

4.02.9 Rebound that is free of foreign matter may be reused as sand in quantity not to exceed 20% of total sand requirements.

4.03 General

4.03.1 Concrete shall be protected against frost and rapid drying. Adequate equipment shall be provided for heating concrete materials and protecting the concrete during freezing or near-freezing weather. No frozen materials or materials or materials containing ice shall be used.

4.00 CONSTRUCTION AND APPLICATION (Cont'd)

4.03.2 Concrete shall never be applied to surfaces containing frost or ice.

4.03.3 Reinforcement shall have a minimum overlap of 2" and shall be fastened together with tie wire or by interlocking the cut ends of one piece to the other.

4.03.4 A fillet of caulking shall be applied all around the junction of the concrete and steel on vertical cylindrical and structural supports, wherever the fireproofing terminates, to prevent the entrance of moisture.