Carboline Company
350 Hanley Industrial Court
St. Louis, MO 63144

Attn: Steve Bockhold
(314) 644-1000 ext 2487

RESEARCH REPORT: RR 24763
(CSI 07810)

Expires: December 1, 2020
Issued Date: February 1, 2019
Code: 2017 LABC

GENERAL APPROVAL – Renewal - Pyrocrete 241- Cementitious Fireproofing Material for Steel Members

DETAILS

Pyrocrete 241 is a cementitious, inorganic, spray-applied fireproofing material.

Pyrocrete 241 are approved for use in the fire-rated systems described herein subject to following conditions:

1. The fireproofing material shall be delivered to the jobsites in sealed containers identified by Underwriters Laboratories' labels indicating the manufacturer's name and product designation.

2. The fireproofing materials may be used in areas exposed to weathering, except that Designs X-732 and X-735 shall only be used in interior locations.

3. All steel surfaces to be sprayed with the fireproofing material shall be free of dirt, oil, scale, paint or primer.

4. Where applied on exposed columns or beams, the use of the fireproofing material shall be limited to members located a minimum of 8'-4" above the finished floor.

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5. Minimum average density of the applied fireproofing material using Pyrocrete 241 shall be 55 pcf, with minimum individual density of 50 pcf.

6. Test data by a Los Angeles City approved testing agency shall be submitted to the Department upon request, to verify the minimum density of the applied fireproofing material.

7. Mixing and application of the fireproofing material shall be in accordance with the manufacturer's instructions, a copy of which shall be available at each jobsite. The total amount of water mixed with the cementitious material shall not exceed 5 gallons per 50 pound bag.

8. Special inspection as required by Section 1705.13 and Information Bulletin P/BC 2011-035 shall be provided during the application of the fireproofing materials.

9. The fireproofing thicknesses and fire ratings shall be as indicated in the attached diagrams. Exceptions and additions to the details are as follows:

   a. Where metal lath is required on column or beam flanges, it shall be bent 1½" toward the web of the column or beam. Design X-733 requires furring clips at 12" o.c. vertically to hold the lath to the flanges.

   b. For boxed-in type column fireproofing, the lath shall be lapped 1" at joints and tied together with No. 9 SWG galvanized steel wire spaced vertically 10" o.c.

   c. The beam fire ratings are only applicable when supporting minimum 2½" thick (measured above deck ridges) 3000 psi structural concrete reinforced with minimum 6 x 6, W1.4 x W1.4 welded wire fabric over steel deck units 1½" to 3" in depth, except that for Designs N-715 and N-716, 1-5/16" deep corrugated units may be used. Minimum unit weight of the concrete shall be 148 pcf.

   d. When fluted or corrugated steel deck units are used, crest areas above the beam shall be sealed with the fireproofing material.

   e. For boxed-in type beam fireproofing, the metal lath shall be tied to lath hangers with No. 18 SWG galvanized steel wires spaced not more than 6" o.c. Lath hangers shall be No. 6 SWG galvanized steel wires spaced not more than 27" o.c.

   f. Metal lath shall be 3.4 lbs./sq. yd. galvanized expanded steel type.
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g. For all beam designs, minimum size and weight of the steel beam shall be W8 x 28. For all column designs, minimum size and weight of the steel column shall be W10 x 49, except that for Designs X-735, X-743, and X-744 the minimum column size and weight is W14 x 228.

h. Where metal lath is present, required thickness of fireproofing material is measured to the surface of the metal lath. All other thicknesses are measured to steel surfaces.

DISCUSSION

The report is in compliance with the 2017 City of Los Angeles Building Code.

The fire ratings are based on tests conducted in accordance with UBC Standard 7-1 (ASTM E119). Exterior exposure tests were also submitted for Pyrocrete 241.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.

DAVID CHANG, Chief
Engineering Research Section
201 N. Figueroa St., Room 880
Los Angeles, CA 90012
Phone - 213-202-9812
Fax - 213-202-9943

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