

**CITY OF NEW YORK
DEPARTMENT OF BUILDINGS**

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of Materials and Equipment Acceptance (MEA) Division.

**Richard C. Visconti, R.A., Acting Commissioner
MEA 175-00-M**

Report of Material and Equipment Acceptance Division

Manufacturer - Star Maling Og Lakkfabrikk A/S, P.O. Box 593, Lierstranda, Norway.

Trade Name(s) - Carboline Nullifire S606.

Product - Mastic coating for fire protection, for Class II Buildings.

Pertinent Code Section(s) - 27-323, 27-324.

Prescribed Test(s) - RS 5-2 (ASTM E119).

Laboratory - Underwriters Laboratories, Inc.

Test Report - UL File R11193.

Description - Type Nullifire S606 mastic coating per requirement of Underwriters Laboratories Inc. is designed to fire-proof interior and exterior steelwork of steel beams, columns, tubes, and pipes in Design No. N610.

Fire Resistance Ratings - ANSI/UL 263

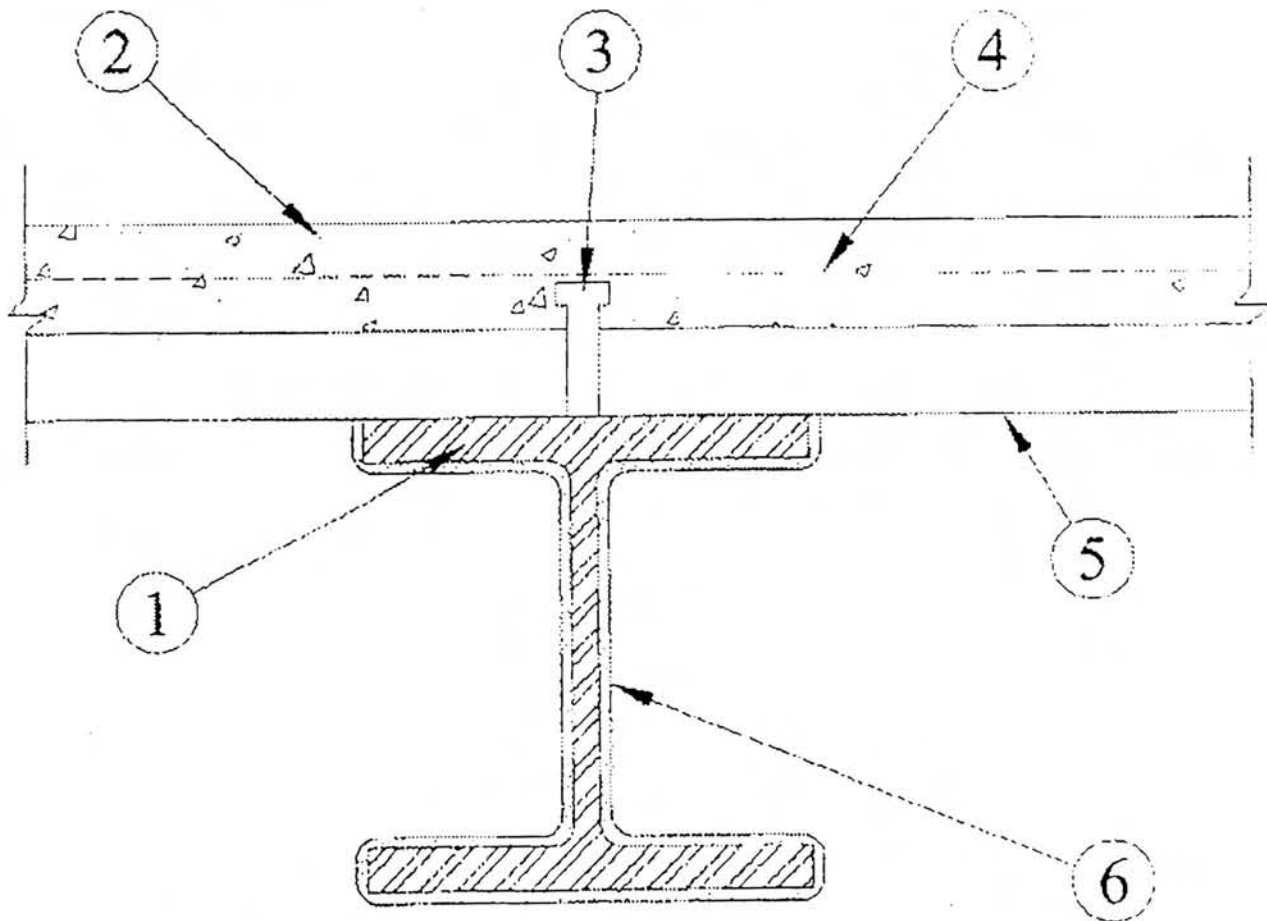
Guide Information

Design No. N610

December 02, 1999

Restrained Beam Ratings — 1, 1-1/2, 2, 3 and 4 Hr (See Item 6)

Unrestrained Beam Ratings — 1, 1-1/2, 2 and 3 Hr (See Item 6)



1. **Steel Beam** Wide flange steel beams with the minimum sizes shown in the tables below. Beams shall be free of dirt, loose scale and oil. Beams shall be primed with a red oxide zinc phosphate primer.

2. **Normal Weight or lightweight Concrete** Compressive strength 3000 psi. For normal weight concrete either carbonate or siliceous aggregate may be used. Unit weight 148 lbs/cu ft for normal weight concrete and 110 lbs/cu ft for lightweight concrete.

3. **Shear Connector—(Optional)** Studs, 3/4 in. diam headed type or equivalent per AISC specifications welded to the top flange of beam through the steel floor units.

4. **Welded Wire Fabric** 6x6-10/10 SWG.

5. **Steel Floor and Form Units** 1-1/2, 2 or 3 in. deep fluted, cellular or corrugated units welded to beam.

6. **Mastic Coating*** Coating spray, brush or trowel applied directly from containers to desired thickness. See table below for appropriate final dry thickness. Flutes above beam to be completely filled with mineral wool insulation having a minimum density of 6 lbs/cu ft or the top flange of the beam shall be protected with the same thickness of coating as required on the beam.

The following thickness apply for unrestrained beams supporting corrugated, fluted or cellular floor units topped with lightweight or normal weight concrete:

UNRESTRAINED BEAM RATINGS

| STEEL SIZE | W/D | 1 HR | 1-1/2 HR | 2 HR | 3 HR |
|------------|------|-------|----------|-------|------|
| W5x19 | 0.78 | 0.053 | 0.089 | 0.143 | NR |
| W6x16 | 0.67 | 0.053 | 0.089 | 0.143 | NR |
| W6x20 | 0.68 | 0.053 | 0.089 | 0.143 | NR |
| W6x25 | 0.84 | 0.053 | 0.089 | 0.143 | NR |
| W8x21 | 0.67 | 0.053 | 0.089 | 0.143 | NR |
| W8x24 | 0.70 | 0.053 | 0.089 | 0.143 | NR |
| W8x28 | 0.81 | 0.053 | 0.089 | 0.143 | NR |
| W8x31 | 0.80 | 0.053 | 0.089 | 0.143 | NR |
| W8x35 | 0.90 | 0.053 | 0.089 | 0.143 | NR |
| W8x40 | 1.02 | 0.053 | 0.081 | 0.143 | NR |
| W8x48 | 1.20 | 0.053 | 0.069 | 0.143 | NR |
| W8x58 | 1.43 | 0.053 | 0.058 | 0.142 | NR |
| W8x67 | 1.63 | 0.053 | 0.053 | 0.125 | NR |
| W10x26 | 0.70 | 0.053 | 0.089 | 0.143 | NR |
| W10x30 | 0.81 | 0.053 | 0.089 | 0.143 | NR |
| W10x33 | 0.79 | 0.053 | 0.089 | 0.143 | NR |
| W10x39 | 0.92 | 0.053 | 0.089 | 0.143 | NR |

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|---------|------|-------|-------|-------|-------|
| W10x45 | 1.05 | 0.053 | 0.078 | 0.143 | NR |
| W10x49 | 1.01 | 0.053 | 0.081 | 0.143 | NR |
| W10x54 | 1.11 | 0.053 | 0.075 | 0.143 | NR |
| W10x60 | 1.23 | 0.053 | 0.068 | 0.143 | NR |
| W10x68 | 1.38 | 0.053 | 0.061 | 0.143 | NR |
| W10x77 | 1.55 | 0.053 | 0.054 | 0.132 | NR |
| W10x88 | 1.75 | 0.046 | 0.046 | 0.117 | 0.167 |
| W10x100 | 1.96 | 0.046 | 0.046 | 0.105 | 0.167 |
| W10x112 | 2.17 | 0.046 | 0.046 | 0.095 | 0.167 |
| W12x30 | 0.69 | 0.053 | 0.089 | 0.143 | NR |
| W12x35 | 0.80 | 0.053 | 0.089 | 0.143 | NR |
| W12x40 | 0.86 | 0.053 | 0.089 | 0.143 | NR |
| W12x45 | 0.97 | 0.053 | 0.085 | 0.143 | NR |
| W12x50 | 1.07 | 0.053 | 0.077 | 0.143 | NR |
| W12x53 | 1.01 | 0.053 | 0.081 | 0.143 | NR |
| W12x58 | 1.10 | 0.053 | 0.075 | 0.143 | NR |
| W12x65 | 1.11 | 0.053 | 0.074 | 0.143 | NR |
| W12x72 | 1.23 | 0.053 | 0.068 | 0.143 | NR |
| W12x79 | 1.34 | 0.053 | 0.062 | 0.143 | NR |
| W12x87 | 1.46 | 0.053 | 0.057 | 0.139 | NR |
| W12x96 | 1.61 | 0.053 | 0.053 | 0.127 | NR |
| W12x106 | 1.76 | 0.046 | 0.046 | 0.116 | 0.167 |
| W12x120 | 1.98 | 0.046 | 0.046 | 0.104 | 0.167 |
| W12x136 | 2.21 | 0.046 | 0.046 | 0.093 | 0.167 |
| W12x152 | 2.45 | 0.046 | 0.046 | 0.084 | 0.167 |
| W12x170 | 2.71 | 0.046 | 0.046 | 0.076 | 0.167 |
| W12x190 | 2.99 | 0.046 | 0.046 | 0.069 | 0.167 |
| W12x210 | 3.26 | 0.046 | 0.046 | 0.063 | 0.167 |
| W12x230 | 3.53 | 0.046 | 0.046 | 0.058 | 0.167 |
| W12x252 | 3.82 | 0.046 | 0.046 | 0.054 | 0.167 |
| W12x279 | 4.16 | 0.046 | 0.046 | 0.049 | 0.167 |
| W12x305 | 4.48 | 0.046 | 0.046 | 0.053 | 0.167 |
| W12x336 | 4.85 | 0.046 | 0.046 | 0.053 | 0.167 |

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|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| W12x40 | 0.86 | 0.088 | 0.089 | 0.143 | 0.237 | 0.237 | NR | NR | NR |
| W12x45 | 0.97 | 0.082 | 0.085 | 0.143 | 0.220 | 0.220 | NR | NR | NR |
| W12x50 | 1.07 | 0.076 | 0.077 | 0.143 | 0.206 | 0.206 | NR | NR | NR |
| W12x53 | 1.01 | 0.079 | 0.081 | 0.143 | 0.214 | 0.214 | NR | NR | NR |
| W12x58 | 1.10 | 0.075 | 0.075 | 0.143 | 0.202 | 0.202 | NR | NR | NR |
| W12x65 | 1.11 | 0.074 | 0.074 | 0.143 | 0.200 | 0.200 | NR | NR | NR |
| W12x72 | 1.23 | 0.069 | 0.069 | 0.143 | 0.187 | 0.187 | NR | NR | NR |
| W12x79 | 1.34 | 0.065 | 0.065 | 0.143 | 0.176 | 0.176 | NR | NR | NR |
| W12x87 | 1.46 | 0.061 | 0.061 | 0.139 | 0.164 | 0.164 | NR | NR | NR |
| W12x96 | 1.61 | 0.056 | 0.056 | 0.127 | 0.153 | 0.153 | NR | NR | NR |
| W12x106 | 1.76 | 0.046 | 0.046 | 0.116 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x120 | 1.98 | 0.046 | 0.046 | 0.104 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x136 | 2.21 | 0.046 | 0.046 | 0.093 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x152 | 2.45 | 0.046 | 0.046 | 0.084 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W12x170 | 2.71 | 0.046 | 0.046 | 0.076 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x190 | 2.99 | 0.046 | 0.046 | 0.069 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x210 | 3.26 | 0.046 | 0.046 | 0.063 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x230 | 3.53 | 0.046 | 0.046 | 0.058 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x252 | 3.82 | 0.046 | 0.046 | 0.054 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x279 | 4.16 | 0.046 | 0.046 | 0.049 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x305 | 4.48 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W12x336 | 4.85 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x34 | 0.72 | 0.098 | 0.098 | 0.143 | 0.263 | 0.263 | NR | NR | NR |
| W14x38 | 0.81 | 0.092 | 0.092 | 0.143 | 0.247 | 0.247 | NR | NR | NR |
| W14x43 | 0.87 | 0.088 | 0.089 | 0.143 | 0.236 | 0.236 | NR | NR | NR |
| W14x48 | 0.96 | 0.082 | 0.085 | 0.143 | 0.221 | 0.221 | NR | NR | NR |
| W14x53 | 1.05 | 0.077 | 0.078 | 0.143 | 0.208 | 0.208 | NR | NR | NR |
| W14x61 | 1.09 | 0.075 | 0.076 | 0.143 | 0.203 | 0.203 | NR | NR | NR |
| W14x68 | 1.21 | 0.070 | 0.070 | 0.143 | 0.189 | 0.189 | NR | NR | NR |
| W14x74 | 1.31 | 0.066 | 0.066 | 0.143 | 0.179 | 0.179 | NR | NR | NR |
| W14x82 | 1.44 | 0.061 | 0.061 | 0.141 | 0.167 | 0.167 | NR | NR | NR |
| W14x90 | 1.29 | 0.067 | 0.067 | 0.143 | 0.180 | 0.180 | NR | NR | NR |
| W14x99 | 1.42 | 0.062 | 0.062 | 0.143 | 0.169 | 0.169 | NR | NR | NR |

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| W14x109 | 1.55 | 0.058 | 0.058 | 0.131 | 0.158 | 0.158 | NR | NR | NR |
| W14x120 | 1.69 | 0.054 | 0.054 | 0.121 | 0.147 | 0.147 | NR | NR | NR |
| W14x132 | 1.85 | 0.046 | 0.046 | 0.053 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W14x145 | 1.97 | 0.046 | 0.046 | 0.053 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W14x159 | 2.14 | 0.046 | 0.046 | 0.053 | 0.122 | 0.122 | 0.167 | 0.119 | 0.119 |
| W14x176 | 2.36 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x193 | 2.57 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x211 | 2.78 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x233 | 3.04 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x257 | 3.32 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x283 | 3.62 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x311 | 3.93 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x342 | 4.27 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x370 | 4.57 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x398 | 4.87 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x426 | 5.15 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x455 | 5.45 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x500 | 5.89 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x550 | 6.37 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x605 | 6.89 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x665 | 7.43 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W14x730 | 7.99 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W16x36 | 0.70 | 0.100 | 0.100 | 0.143 | 0.268 | 0.268 | NR | NR | NR |
| W16x40 | 0.77 | 0.094 | 0.094 | 0.143 | 0.253 | 0.253 | NR | NR | NR |
| W16x45 | 0.87 | 0.088 | 0.089 | 0.143 | 0.236 | 0.236 | NR | NR | NR |
| W16x50 | 0.96 | 0.082 | 0.086 | 0.143 | 0.222 | 0.222 | NR | NR | NR |
| W16x57 | 1.08 | 0.076 | 0.076 | 0.143 | 0.204 | 0.204 | NR | NR | NR |
| W16x67 | 1.08 | 0.076 | 0.076 | 0.143 | 0.204 | 0.204 | NR | NR | NR |
| W16x77 | 1.24 | 0.069 | 0.069 | 0.143 | 0.186 | 0.186 | NR | NR | NR |
| W16x89 | 1.42 | 0.062 | 0.062 | 0.143 | 0.169 | 0.169 | NR | NR | NR |
| W16x100 | 1.58 | 0.057 | 0.057 | 0.129 | 0.155 | 0.155 | NR | NR | NR |
| W18x35 | 0.67 | 0.103 | 0.103 | 0.143 | 0.275 | 0.275 | NR | NR | NR |
| W18x40 | 0.76 | 0.095 | 0.095 | 0.143 | 0.256 | 0.256 | NR | NR | NR |

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| W18x46 | 0.87 | 0.088 | 0.089 | 0.143 | 0.236 | 0.236 | NR | NR | NR |
| W18x50 | 0.88 | 0.087 | 0.089 | 0.143 | 0.235 | 0.235 | NR | NR | NR |
| W18x55 | 0.96 | 0.082 | 0.085 | 0.143 | 0.221 | 0.221 | NR | NR | NR |
| W18x60 | 1.04 | 0.078 | 0.079 | 0.143 | 0.209 | 0.209 | NR | NR | NR |
| W18x65 | 1.12 | 0.074 | 0.074 | 0.143 | 0.199 | 0.199 | NR | NR | NR |
| W18x71 | 1.22 | 0.070 | 0.070 | 0.143 | 0.188 | 0.188 | NR | NR | NR |
| W18x76 | 1.12 | 0.074 | 0.074 | 0.143 | 0.200 | 0.200 | NR | NR | NR |
| W18x86 | 1.26 | 0.068 | 0.068 | 0.143 | 0.184 | 0.184 | NR | NR | NR |
| W18x97 | 1.41 | 0.062 | 0.062 | 0.143 | 0.169 | 0.169 | NR | NR | NR |
| W18x106 | 1.53 | 0.059 | 0.059 | 0.133 | 0.159 | 0.159 | NR | NR | NR |
| W18x119 | 1.71 | 0.054 | 0.054 | 0.120 | 0.146 | 0.146 | NR | NR | NR |
| W21x44 | 0.74 | 0.097 | 0.097 | 0.143 | 0.259 | 0.259 | NR | NR | NR |
| W21x50 | 0.84 | 0.090 | 0.090 | 0.143 | 0.241 | 0.241 | NR | NR | NR |
| W21x57 | 0.95 | 0.083 | 0.086 | 0.143 | 0.223 | 0.223 | NR | NR | NR |
| W21x62 | 0.95 | 0.083 | 0.086 | 0.143 | 0.222 | 0.222 | NR | NR | NR |
| W21x68 | 1.04 | 0.078 | 0.079 | 0.143 | 0.210 | 0.210 | NR | NR | NR |
| W21x73 | 1.11 | 0.074 | 0.074 | 0.143 | 0.200 | 0.200 | NR | NR | NR |
| W21x83 | 1.26 | 0.068 | 0.068 | 0.143 | 0.184 | 0.184 | NR | NR | NR |
| W21x93 | 1.40 | 0.063 | 0.063 | 0.143 | 0.170 | 0.170 | NR | NR | NR |
| W21x101 | 1.30 | 0.066 | 0.066 | 0.143 | 0.180 | 0.180 | NR | NR | NR |
| W21x111 | 1.42 | 0.062 | 0.062 | 0.143 | 0.168 | 0.168 | NR | NR | NR |
| W21x122 | 1.55 | 0.058 | 0.058 | 0.131 | 0.157 | 0.157 | NR | NR | NR |
| W21x132 | 1.67 | 0.055 | 0.055 | 0.122 | 0.148 | 0.148 | NR | NR | NR |
| W21x147 | 1.85 | 0.046 | 0.046 | 0.111 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W24x55 | 0.083 | 0.090 | 0.090 | 0.143 | 0.243 | 0.243 | NR | NR | NR |
| W24x62 | 0.93 | 0.084 | 0.088 | 0.143 | 0.226 | 0.226 | NR | NR | NR |
| W24x68 | 0.94 | 0.084 | 0.087 | 0.143 | 0.225 | 0.225 | NR | NR | NR |
| W24x76 | 1.04 | 0.078 | 0.079 | 0.143 | 0.210 | 0.210 | NR | NR | NR |
| W24x84 | 1.14 | 0.073 | 0.073 | 0.143 | 0.196 | 0.196 | NR | NR | NR |
| W24x94 | 1.27 | 0.067 | 0.067 | 0.143 | 0.182 | 0.182 | NR | NR | NR |
| W24x104 | 1.23 | 0.069 | 0.069 | 0.143 | 0.187 | 0.187 | NR | NR | NR |
| W24x117 | 1.38 | 0.064 | 0.064 | 0.143 | 0.172 | 0.172 | NR | NR | NR |
| W24x131 | 1.53 | 0.059 | 0.059 | 0.133 | 0.159 | 0.159 | NR | NR | NR |

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|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| W24x146 | 1.70 | 0.054 | 0.054 | 0.121 | 0.147 | 0.147 | NR | NR | NR |
| W24x162 | 1.87 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W27x84 | 1.03 | 0.078 | 0.080 | 0.143 | 0.211 | 0.211 | NR | NR | NR |
| W27x94 | 1.15 | 0.073 | 0.073 | 0.143 | 0.196 | 0.196 | NR | NR | NR |
| W27x102 | 1.24 | 0.069 | 0.069 | 0.143 | 0.186 | 0.186 | NR | NR | NR |
| W27x114 | 1.38 | 0.063 | 0.063 | 0.143 | 0.172 | 0.172 | NR | NR | NR |
| W27x146 | 1.55 | 0.058 | 0.058 | 0.131 | 0.157 | 0.157 | NR | NR | NR |
| W27x161 | 1.70 | 0.054 | 0.054 | 0.121 | 0.147 | 0.147 | NR | NR | NR |
| W27x178 | 1.87 | 0.046 | 0.046 | 0.110 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W30x99 | 1.12 | 0.074 | 0.074 | 0.143 | 0.199 | 0.199 | NR | NR | NR |
| W30x108 | 1.21 | 0.070 | 0.070 | 0.143 | 0.189 | 0.189 | NR | NR | NR |
| W30x116 | 1.30 | 0.066 | 0.066 | 0.143 | 0.180 | 0.180 | NR | NR | NR |
| W30x124 | 1.38 | 0.063 | 0.063 | 0.143 | 0.171 | 0.171 | NR | NR | NR |
| W30x132 | 1.47 | 0.061 | 0.061 | 0.138 | 0.164 | 0.164 | NR | NR | NR |
| W30x173 | 1.67 | 0.055 | 0.055 | 0.122 | 0.149 | 0.149 | NR | NR | NR |
| W30x191 | 1.84 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W30x211 | 2.02 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W33x118 | 1.21 | 0.070 | 0.070 | 0.143 | 0.189 | 0.189 | NR | NR | NR |
| W33x130 | 1.32 | 0.066 | 0.066 | 0.143 | 0.177 | 0.177 | NR | NR | NR |
| W33x141 | 1.43 | 0.062 | 0.062 | 0.142 | 0.168 | 0.168 | NR | NR | NR |
| W33x152 | 1.53 | 0.046 | 0.046 | 0.133 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W33x201 | 1.80 | 0.046 | 0.046 | 0.053 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W33x221 | 1.96 | 0.046 | 0.046 | 0.053 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W33x241 | 2.13 | 0.049 | 0.049 | 0.053 | 0.122 | 0.122 | 0.167 | NR | NR |
| W36x135 | 1.29 | 0.067 | 0.067 | 0.143 | 0.180 | 0.180 | NR | NR | NR |
| W36x150 | 1.43 | 0.062 | 0.062 | 0.143 | 0.168 | 0.168 | NR | NR | NR |
| W36x160 | 1.52 | 0.059 | 0.059 | 0.143 | 0.160 | 0.160 | NR | NR | NR |
| W36x170 | 1.61 | 0.056 | 0.056 | 0.127 | 0.153 | 0.153 | NR | NR | NR |
| W36x182 | 1.71 | 0.054 | 0.054 | 0.120 | 0.146 | 0.146 | NR | NR | NR |
| W36x194 | 1.82 | 0.046 | 0.046 | 0.053 | 0.046 | 0.046 | 0.167 | 0.119 | 0.119 |
| W36x210 | 1.96 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W36x230 | 1.95 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W36x245 | 2.07 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |

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| W36x260 | 2.19 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W36x280 | 2.35 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |
| W36x300 | 2.50 | 0.046 | 0.046 | 0.053 | 0.046 | 0.053 | 0.167 | 0.119 | 0.119 |

NR - Not Rated

CARBOLINE CO — Type Nullifire S606 Investigated for Interior Condition Space Purpose

8. **Spray-Applied Fire Resistive Materials*** Applied to steel floor units (Item 3) by mixing with water and spraying to steel surfaces which must be clean and free of dirt, loose scale and oil. Min avg and min ind density of 15/14 pcf respectively for the Type 15 and 15-High Yield, 22/18 pcf, respectively for the Type 22, 40/37 pcf respectively for the Type 40, 28/25 pcf respectively for the Type 239, 4.5/42 respectively for the 240 High Yield, and 55/50 respectively for the Type 241. For method of density determination, refer to Design Information Section. May be used only in general floor areas without concrete penetrations with all fluted steel floor units or blends consisting of one or more fluted units to one 24 in wide max cellular unit, 1-1/2 or 3 in. deep, with cells spaced approx 6 and 8 in. respectively. Use of steel studs with discs (Item 10) is required on all cellular units with flat plate on the bottom, optional on other steel surfaces

The following thickness of material is required on the steel floor units for the various Restrained and Unrestrained Assembly Ratings:

| Restrained Assembly Rating Hr.** | Unrestrained Assembly Rating Hr.*** | Min Thk of Spray Applied Fire Resistive Mtl (In.)* | | |
|----------------------------------|-------------------------------------|--|-------|------------|
| | | Crests | Valey | Flat Plate |
| 1 and 2 | 1 | 3/8 | 3/8 | 3/8 |
| 2 | 1-1/2 or 2 | 3/8 | 3/8 | 3/8 |
| 3 | 1-1/2 or 2 | 11/16 | 1/2 | 1/2 |
| 4 | 2 or 3 ^a | 1-1/2 | 1-1/8 | NR |
| 4 | 2 or 3 ^b | 1-7/16 | 13/16 | NR |

*Where metal lath (Item 9) is required thickness of material shall be measured to the face of the lath

** Min thickness of 1/2 in. is required in crests of 1-1/2 in. deep fluted units for a 2 Hr. Restrained Assembly Rating

*** Unrestrained Beam Rating (See Item 7) shall be equal to the Unrestrained Assembly Rating

a) Floor constructed of lightweight concrete only

b) Floor constructed of normal weight concrete only

CARBOLINE CO — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241

CARBOLINE KOREA LTD — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241

CARBOLINE MIDDLE EAST L L C — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241

CARBOLINE SOUTHEAST ASIA PTE LTD — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241

CDC CARBOLINE (INDIA) PVT LTD — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241; CDC Crete 15, 15-High Yield, CDC Crete 22, CDC Crete 40, CDC Crete 239, CDC Crete 240-High Yield, CDC Crete 241

CENTRAL PAINTS IND INC LTD — Types 15, 15-High Yield, 22, 40, 239, 240-High Yield, 241

9. **Metal Lath (not shown)** Where Types 40, 239, 240 High-Yield and 241 are applied to steel deck, fluted or cellular, 3.8 in metal ribbed lath weighing 3.4 lb/yd² shall be secured to the underside of the steel deck (ribs upward) with S-12 by 3.8 in long panhead, self-tapping steel screws spaced 12 in OC in all directions. Steel screws shall be fitted with 1/2 in diameter steel washers. Adjacent pieces of lath shall be overlapped 1 in. minimum. Entire surface of deck shall be lathed

10. **Steel Studs With Discs** For use with Types 15, 15-High Yield and 22, studs consist of No. 12 SWG galvanized steel wire welded to 1-3/16 in diameter No. 28 MSG galvanized steel disc. The ends of the studs opposite the disc shall be welded to the cellular floor units. The spacing of the rows shall not exceed 22 in. Spacing between studs along the rows shall not exceed 24 in. The total number of studs shall average not less than one stud per 236 in² of cellular floor units

Recommendation - That the above described assemblies be accepted for Class II Buildings only, as having the fire resistance ratings given above, when members framing into the columns have at least the same fire resistance rating, provided that following requirements for application and protection of the mastic coating fireproofing be adhered to:

1. Where used for protection of floor ceiling and/or assemblies in roof/ceiling in fireproof buildings each such assembly shall bear an identifying tag installed at each beam. Subject tag shall be of metal construction mechanically attached to such beams and shall state the following: "this beam has been fireproofed with MEA approved Nullifire S606 finish and such finish shall not be removed" nor any subsequent coating shall be applied other than Nullifire S606.
2. The general contractor and the owner shall provide qualified personnel to supervise the application of the sprayed-on fireproofing. They shall certify to the Department of Buildings that the finished fireproofing of the completed building is in full compliance with the acceptance requirements and drawings approved by the Department of Buildings.
3. The installation of the sprayed on fire protection shall be subject to the controlled inspection requirements of Section 27-132.
4. The use of this material shall be subject to all pertinent regulations of the Department of Air Resources and the Department of Health.
5. All installations shall comply with 118-68 GR, the New York City Building Code, the Fire Department Directives, the manufacturer's instructions and laboratory recommendation.
6. All shipments and deliveries of the materials comprising this assembly shall be accompanied by a certificate or label certifying that the materials shipped or delivered are equivalent to those tested and acceptable for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance JUL 27 2000

Examined by S Derkudam