

CEASEFIRE TEST REPORT SUMMARY

| TEST \ CEASEFIRE | HIGH PERFORMANCE | STEEL COATING | LATEX | SUPERIOR | WATERBORNE | CLEAR EPOXY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|-------------------------------------|--|----------------|--|-----------------|----------------|---------------|----------------|------------------|------|------|----------|------|-------|-----|------|-----|-----|-----|-----|---|----|----|-----|-----|----|---|-----|-----|----|---|---|---|-----|-----|---|----|----|-----|-----|-----|---|---|-----|--|--|
| ASTM-E84 (flame spread / smoke) | Class A | | | | Class A | Class A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UL 1709 (fire endurance) | | | | | 25 min @ 32 mil | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM-E119 (fire endurance) | 52 min @ 35mils 58 min @ 60 mils | 114 min @ 1/4 - 3/8" thick 139 min @ 3/8 - 1/2" thick | | 56 min @ 60 mils | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IMO A.653(16) (flame spread/heat) | | | | pass @ 10 mil coat | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UL94 (over polyethylene foam) | | | V0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UL94 (over polypropylene foam) | | | V0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| UBC 26-2 (thermal barrier building) | | | pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM B117 (salt spray) | | 720 hrs no coating loss | | 500 hrs no coating loss | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM D695 (compressive strength) | | 1/2" thick - 892.4 psi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM D256 (izod impact strength) | | 1/2" thick = 0.93 ft-lbs-force/in. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM E662 (smoke density) | | <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td></td> <td style="text-align: center;"><u>non flaming</u></td> <td style="text-align: center;"><u>flaming</u></td> </tr> <tr> <td>Ds@1.5 min</td> <td style="text-align: center;">0.5</td> <td style="text-align: center;">1.7</td> </tr> <tr> <td>Ds@4.0 min</td> <td style="text-align: center;">1.1</td> <td style="text-align: center;">51.7</td> </tr> <tr> <td>Dm(corr)</td> <td style="text-align: center;">68.7</td> <td style="text-align: center;">205.5</td> </tr> </table> | | <u>non flaming</u> | <u>flaming</u> | Ds@1.5 min | 0.5 | 1.7 | Ds@4.0 min | 1.1 | 51.7 | Dm(corr) | 68.7 | 205.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>non flaming</u> | <u>flaming</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ds@1.5 min | 0.5 | 1.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ds@4.0 min | 1.1 | 51.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dm(corr) | 68.7 | 205.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM D4541 (pull off strength) | | 125 mil thick = 275 psi | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BSS 7239 (toxic gas tes) | | <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>gas</u></td> <td style="text-align: center;"><u>ave. ppm</u></td> </tr> <tr> <td>CO</td> <td style="text-align: center;">325.0</td> </tr> <tr> <td>HCN</td> <td style="text-align: center;">20.0</td> </tr> <tr> <td>SO2</td> <td style="text-align: center;">10.0</td> </tr> <tr> <td>HCL</td> <td style="text-align: center;">27.5</td> </tr> <tr> <td>HF</td> <td style="text-align: center;">0.0</td> </tr> <tr> <td>NO</td> <td style="text-align: center;">57.5</td> </tr> <tr> <td>NO2</td> <td style="text-align: center;">8.0</td> </tr> </table> | <u>gas</u> | <u>ave. ppm</u> | CO | 325.0 | HCN | 20.0 | SO2 | 10.0 | HCL | 27.5 | HF | 0.0 | NO | 57.5 | NO2 | 8.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>gas</u> | <u>ave. ppm</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CO | 325.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HCN | 20.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SO2 | 10.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HCL | 27.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HF | 0.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NO | 57.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NO2 | 8.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM G53 (1000 hr UV exposure) | | no cracking, melting or spotting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASTM E162 (flame spread) | | Class A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MSC.41(64) (toxicity test) | | | | <table style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tr> <td style="text-align: center;"><u>gas</u></td> <td style="text-align: center;"><u>25kw-nf</u></td> <td style="text-align: center;"><u>25kw-f</u></td> <td style="text-align: center;"><u>50kw-nf</u></td> <td style="text-align: center;"><u>req limit</u></td> </tr> <tr> <td>CO</td> <td style="text-align: center;">30</td> <td style="text-align: center;">80</td> <td style="text-align: center;">300</td> <td style="text-align: center;">1,450</td> </tr> <tr> <td>HCN</td> <td style="text-align: center;">10</td> <td style="text-align: center;">14</td> <td style="text-align: center;">14</td> <td style="text-align: center;">140</td> </tr> <tr> <td>SO2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">10</td> <td style="text-align: center;">10</td> <td style="text-align: center;">120</td> </tr> <tr> <td>HCL</td> <td style="text-align: center;">10</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0.4</td> <td style="text-align: center;">600</td> </tr> <tr> <td>HF</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">600</td> </tr> <tr> <td>NOx</td> <td style="text-align: center;">0</td> <td style="text-align: center;">21</td> <td style="text-align: center;">12</td> <td style="text-align: center;">350</td> </tr> <tr> <td>HBR</td> <td style="text-align: center;">0.5</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">600</td> </tr> </table> | <u>gas</u> | <u>25kw-nf</u> | <u>25kw-f</u> | <u>50kw-nf</u> | <u>req limit</u> | CO | 30 | 80 | 300 | 1,450 | HCN | 10 | 14 | 14 | 140 | SO2 | 0 | 10 | 10 | 120 | HCL | 10 | 1 | 0.4 | 600 | HF | 0 | 0 | 0 | 600 | NOx | 0 | 21 | 12 | 350 | HBR | 0.5 | 0 | 0 | 600 | | |
| <u>gas</u> | <u>25kw-nf</u> | <u>25kw-f</u> | <u>50kw-nf</u> | <u>req limit</u> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CO | 30 | 80 | 300 | 1,450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HCN | 10 | 14 | 14 | 140 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SO2 | 0 | 10 | 10 | 120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HCL | 10 | 1 | 0.4 | 600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HF | 0 | 0 | 0 | 600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NOx | 0 | 21 | 12 | 350 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HBR | 0.5 | 0 | 0 | 600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |