



VTEC Laboratories Inc.

February 27, 2007

Client: Supress Products, LLC
PO Box 3472
San Rafael, CA 94912

Attn: Mr. Bruce Donaldson

Subject: Fire Resistance Testing According ASTM E119
Specifications.

SAMPLE DESCRIPTION: Wall Assembly A

The 36"x36"x4.75" thick Supress Wall Assembly was fabricated by Supress Products, LLC and provided to VTEC Laboratories Inc. for ASTM E119 fire endurance testing. The wall was made up of 5 pieces of 2"x4" wood studs, 4 pieces forming a 36"x36" square frame and the fifth piece placed 19.25" inches from one side of the frame. One layer of 5/8" gypsum board was attached to one side of the frame and one layer of 1/2" Supress Sound Engineered Drywall SED1248 was attached to the other side using 1 1/4" standard drywall screws. The cavity in the frame was filled with one layer of R13 fiberglass insulation.

PROCEDURE:

The furnace used in this test measures 3ft x 3ft x 3ft. The outside construction is steel and the furnace is lined with a ceramic refractory insulation. The furnace dimensions inside the insulation are nominally 27" x 27" x 27". A single burner is centered vertically in the wall opposite the sample.

DISCLAIMER: This test should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazards or fire risks of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment, which takes into account all of the factors, which are pertinent to an assessment of fire hazard of a particular end use.

Notice: VTEC Laboratories Inc. will not be liable for any loss or damage resulting from the use of the data in this report, in excess of the invoice. This report pertains to the sample tested only. Such report shall not be interpreted to be a warranty, either expressed or implied as to the suitability or fitness of said sample for such uses or applications, as the party contracting for the report may apply such sample.

PROCEDURE (CON'T):

This burner is rated for 1.5 million Btu/hr and is of the flat flame or non-impinging flame design. Furnace conditions are monitored by three Inconel-sheathed chromel-alumel thermocouples. These thermocouples are positioned 6" from the face of the sample.

The sample was oriented vertically in the front opening of the furnace. The unexposed surface temperature of the sample was monitored by six, 20-gauge type K, fiberglass sheathed thermocouples. An insulating pad was placed over each thermocouple on the unexposed side of the sample.

The fire test was run following the ASTM E119 time-temperature curve.


The endpoint for the ASTM E119 test occurs when either all the thermocouples on the sample reach an average of 250°F + ambient starting temperature, any individual thermocouple on the sample exceeds 325°F + ambient starting temperature, or when the sample experiences burn-through.


RESULTS:

The ambient temperature was 75°F.

At 86 minutes thermocouple #4 exceeded 400°F thus indicating failure. At 90 minutes the average of all thermocouples exceeded 331°F thus reaching a second failure criteria. At 93 minutes thermocouple 6 exceeded 400°F thus reaching another failure criteria. At 94 minutes the test was stopped and the furnace was shut off.

The time-temperature data are contained on the following pages.


Neil Schultz
Executive Director


Amirudin Rahim
Technical Director

REVISION 1.0: Corrected Product Name from "SED5848" to "SED1248" under "SAMPLE DESCRIPTION"

| Time (mins.) | Sample 1 deg F | Sample 2 deg F | Sample 3 deg F | Sample 4 deg F | Sample 5 deg F | Sample 6 deg F | Furnace deg F | Furnace deg F | Furnace deg F | Sample Average | Furnace Average |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|-------------------|--------------------|
| 0 | 75 | 75 | 75 | 74 | 74 | 75 | 83 | 80 | 80 | 75 | 81 |
| 1 | 75 | 75 | 75 | 75 | 75 | 76 | 556 | 476 | 478 | 75 | 499 |
| 2 | 75 | 75 | 75 | 75 | 75 | 76 | 780 | 655 | 696 | 75 | 703 |
| 3 | 75 | 75 | 75 | 75 | 75 | 76 | 954 | 823 | 902 | 75 | 893 |
| 4 | 75 | 75 | 75 | 75 | 75 | 76 | 1042 | 908 | 1009 | 75 | 987 |
| 5 | 75 | 75 | 75 | 75 | 75 | 76 | 1161 | 1071 | 1143 | 75 | 1125 |
| 6 | 75 | 75 | 75 | 75 | 75 | 76 | 1145 | 1060 | 1126 | 75 | 1110 |
| 7 | 77 | 75 | 76 | 77 | 75 | 77 | 1157 | 1067 | 1134 | 76 | 1120 |
| 8 | 80 | 76 | 79 | 81 | 75 | 81 | 1166 | 1084 | 1148 | 79 | 1133 |
| 9 | 85 | 77 | 84 | 86 | 76 | 85 | 1196 | 1106 | 1176 | 82 | 1160 |
| 10 | 91 | 79 | 88 | 92 | 76 | 91 | 1223 | 1133 | 1200 | 86 | 1187 |
| 11 | 96 | 81 | 93 | 97 | 77 | 96 | 1272 | 1186 | 1249 | 90 | 1236 |
| 12 | 101 | 83 | 98 | 102 | 78 | 101 | 1289 | 1212 | 1272 | 94 | 1256 |
| 13 | 106 | 85 | 102 | 108 | 79 | 106 | 1349 | 1273 | 1317 | 98 | 1314 |
| 14 | 111 | 87 | 107 | 112 | 80 | 110 | 1366 | 1288 | 1340 | 101 | 1332 |
| 15 | 115 | 89 | 110 | 116 | 82 | 115 | 1390 | 1322 | 1364 | 105 | 1359 |
| 16 | 119 | 91 | 114 | 120 | 84 | 119 | 1408 | 1339 | 1380 | 108 | 1379 |
| 17 | 122 | 94 | 118 | 123 | 85 | 122 | 1440 | 1373 | 1405 | 111 | 1406 |
| 18 | 125 | 96 | 121 | 125 | 87 | 125 | 1467 | 1405 | 1435 | 113 | 1435 |
| 19 | 128 | 98 | 124 | 128 | 89 | 128 | 1470 | 1413 | 1441 | 116 | 1442 |
| 20 | 131 | 101 | 126 | 131 | 91 | 130 | 1490 | 1426 | 1460 | 118 | 1459 |
| 21 | 134 | 103 | 129 | 133 | 93 | 133 | 1506 | 1448 | 1480 | 121 | 1478 |
| 22 | 136 | 105 | 132 | 135 | 95 | 135 | 1511 | 1457 | 1488 | 123 | 1485 |
| 23 | 137 | 107 | 134 | 136 | 97 | 137 | 1523 | 1477 | 1503 | 125 | 1501 |
| 24 | 138 | 109 | 135 | 137 | 99 | 138 | 1547 | 1506 | 1525 | 126 | 1526 |
| 25 | 139 | 111 | 136 | 137 | 101 | 139 | 1557 | 1513 | 1538 | 127 | 1537 |
| 26 | 139 | 112 | 137 | 138 | 103 | 140 | 1565 | 1523 | 1551 | 128 | 1546 |
| 27 | 140 | 113 | 137 | 138 | 104 | 140 | 1574 | 1540 | 1554 | 129 | 1555 |
| 28 | 140 | 115 | 138 | 139 | 106 | 141 | 1580 | 1545 | 1566 | 130 | 1564 |
| 29 | 141 | 116 | 139 | 141 | 107 | 143 | 1572 | 1540 | 1554 | 131 | 1556 |
| 30 | 142 | 117 | 141 | 143 | 108 | 144 | 1596 | 1557 | 1579 | 132 | 1577 |
| 31 | 144 | 118 | 142 | 146 | 110 | 147 | 1596 | 1557 | 1581 | 135 | 1578 |
| 32 | 146 | 120 | 145 | 149 | 112 | 150 | 1612 | 1575 | 1598 | 137 | 1595 |
| 33 | 148 | 122 | 147 | 152 | 114 | 153 | 1606 | 1577 | 1591 | 139 | 1592 |
| 34 | 151 | 125 | 150 | 155 | 115 | 156 | 1609 | 1574 | 1594 | 142 | 1592 |
| 35 | 153 | 128 | 153 | 159 | 118 | 159 | 1619 | 1584 | 1602 | 145 | 1600 |
| 36 | 156 | 131 | 156 | 162 | 120 | 162 | 1609 | 1573 | 1597 | 148 | 1593 |
| 37 | 158 | 133 | 158 | 165 | 122 | 165 | 1612 | 1582 | 1598 | 150 | 1598 |
| 38 | 161 | 136 | 161 | 168 | 124 | 167 | 1616 | 1585 | 1602 | 153 | 1600 |
| 39 | 164 | 138 | 163 | 170 | 126 | 170 | 1606 | 1572 | 1594 | 155 | 1591 |
| 40 | 166 | 141 | 166 | 172 | 128 | 173 | 1628 | 1592 | 1609 | 158 | 1606 |
| 41 | 169 | 143 | 168 | 174 | 130 | 174 | 1632 | 1603 | 1611 | 160 | 1615 |
| 42 | 171 | 145 | 171 | 175 | 132 | 176 | 1630 | 1596 | 1616 | 162 | 1614 |

| Time (mins.) | Sample 1 deg F | Sample 2 deg F | Sample 3 deg F | Sample 4 deg F | Sample 5 deg F | Sample 6 deg F | Furnace deg F | Furnace deg F | Furnace deg F | Sample Average | Furnace Average |
|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------------------|------------------|------------------|-------------------|--------------------|
| 43 | 173 | 147 | 172 | 176 | 134 | 178 | 1637 | 1601 | 1629 | 163 | 1622 |
| 44 | 175 | 149 | 174 | 177 | 136 | 179 | 1642 | 1611 | 1625 | 165 | 1627 |
| 45 | 176 | 151 | 176 | 178 | 138 | 180 | 1640 | 1612 | 1631 | 166 | 1628 |
| 46 | 177 | 153 | 177 | 179 | 140 | 182 | 1648 | 1611 | 1628 | 168 | 1632 |
| 47 | 178 | 154 | 178 | 181 | 142 | 183 | 1654 | 1620 | 1650 | 169 | 1641 |
| 48 | 179 | 156 | 180 | 182 | 144 | 185 | 1655 | 1620 | 1647 | 171 | 1641 |
| 49 | 180 | 158 | 182 | 184 | 145 | 187 | 1656 | 1623 | 1647 | 173 | 1643 |
| 50 | 181 | 159 | 183 | 186 | 147 | 189 | 1676 | 1642 | 1674 | 174 | 1664 |
| 51 | 182 | 161 | 185 | 188 | 149 | 191 | 1682 | 1648 | 1673 | 176 | 1667 |
| 52 | 184 | 161 | 187 | 189 | 150 | 194 | 1674 | 1641 | 1675 | 178 | 1662 |
| 53 | 186 | 163 | 189 | 191 | 152 | 196 | 1695 | 1661 | 1680 | 179 | 1680 |
| 54 | 188 | 164 | 191 | 194 | 153 | 198 | 1683 | 1652 | 1676 | 181 | 1671 |
| 55 | 190 | 165 | 193 | 195 | 154 | 200 | 1684 | 1652 | 1683 | 183 | 1672 |
| 56 | 191 | 166 | 195 | 198 | 156 | 202 | 1692 | 1663 | 1693 | 184 | 1684 |
| 57 | 193 | 167 | 197 | 200 | 157 | 203 | 1685 | 1649 | 1687 | 186 | 1675 |
| 58 | 195 | 167 | 198 | 203 | 158 | 205 | 1702 | 1666 | 1705 | 188 | 1689 |
| 59 | 196 | 168 | 200 | 205 | 159 | 207 | 1707 | 1678 | 1703 | 189 | 1696 |
| 60 | 198 | 170 | 201 | 208 | 160 | 209 | 1700 | 1667 | 1696 | 191 | 1689 |
| 61 | 199 | 170 | 203 | 210 | 161 | 210 | 1713 | 1681 | 1713 | 192 | 1702 |
| 62 | 201 | 170 | 204 | 211 | 162 | 212 | 1717 | 1685 | 1714 | 193 | 1706 |
| 63 | 203 | 171 | 206 | 214 | 163 | 213 | 1732 | 1694 | 1727 | 195 | 1718 |
| 64 | 205 | 172 | 207 | 216 | 164 | 214 | 1719 | 1685 | 1720 | 196 | 1708 |
| 65 | 206 | 173 | 209 | 218 | 165 | 215 | 1732 | 1700 | 1728 | 198 | 1720 |
| 66 | 208 | 173 | 210 | 219 | 166 | 216 | 1737 | 1698 | 1736 | 199 | 1724 |
| 67 | 209 | 174 | 212 | 222 | 167 | 218 | 1736 | 1704 | 1745 | 200 | 1728 |
| 68 | 211 | 175 | 212 | 223 | 168 | 219 | 1728 | 1701 | 1734 | 201 | 1721 |
| 69 | 212 | 175 | 213 | 225 | 169 | 220 | 1742 | 1710 | 1742 | 202 | 1732 |
| 70 | 214 | 176 | 214 | 227 | 171 | 221 | 1745 | 1710 | 1743 | 204 | 1734 |
| 71 | 215 | 177 | 214 | 231 | 172 | 221 | 1748 | 1713 | 1749 | 205 | 1738 |
| 72 | 216 | 178 | 215 | 235 | 173 | 223 | 1751 | 1718 | 1756 | 207 | 1745 |
| 73 | 217 | 178 | 216 | 240 | 175 | 225 | 1753 | 1723 | 1759 | 209 | 1746 |
| 74 | 218 | 179 | 217 | 244 | 176 | 227 | 1749 | 1720 | 1756 | 210 | 1741 |
| 75 | 219 | 180 | 217 | 248 | 178 | 230 | 1761 | 1727 | 1765 | 212 | 1752 |
| 76 | 221 | 181 | 218 | 253 | 180 | 232 | 1755 | 1726 | 1763 | 214 | 1748 |
| 77 | 223 | 182 | 219 | 259 | 181 | 234 | 1771 | 1737 | 1778 | 216 | 1762 |
| 78 | 225 | 183 | 220 | 267 | 183 | 237 | 1764 | 1736 | 1767 | 219 | 1756 |
| 79 | 227 | 184 | 221 | 277 | 184 | 240 | 1773 | 1743 | 1777 | 222 | 1766 |
| 80 | 230 | 186 | 223 | 285 | 185 | 244 | 1765 | 1735 | 1780 | 226 | 1761 |
| 81 | 233 | 188 | 225 | 308 | 187 | 249 | 1774 | 1741 | 1783 | 231 | 1768 |
| 82 | 237 | 191 | 227 | 329 | 188 | 254 | 1768 | 1734 | 1780 | 238 | 1763 |
| 83 | 241 | 193 | 230 | 352 | 190 | 260 | 1779 | 1750 | 1799 | 244 | 1778 |
| 84 | 245 | 195 | 233 | 376 | 191 | 270 | 1778 | 1749 | 1795 | 252 | 1775 |
| 85 | 251 | 198 | 235 | 396 | 193 | 281 | 1795 | 1763 | 1811 | 259 | 1790 |

| <u>Time</u> <u>(mins.)</u> | <u>Sample 1</u> <u>deg F</u> | <u>Sample 2</u> <u>deg F</u> | <u>Sample 3</u> <u>deg F</u> | <u>Sample 4</u> <u>deg F</u> | <u>Sample 5</u> <u>deg F</u> | <u>Sample 6</u> <u>deg F</u> | <u>Furnace</u> <u>deg F</u> | <u>Furnace</u> <u>deg F</u> | <u>Furnace</u> <u>deg F</u> | <u>Sample</u> <u>Average</u> | <u>Furnace</u> <u>Average</u> |
|-------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|----------------------------------|
| 86 | 258 | 201 | 238 | 418 | 195 | 290 | 1795 | 1764 | 1816 | 267 | 1791 |
| 87 | 267 | 204 | 242 | 444 | 196 | 296 | 1786 | 1758 | 1817 | 275 | 1788 |
| 88 | 279 | 210 | 246 | 472 | 199 | 302 | 1790 | 1758 | 1816 | 285 | 1791 |
| 89 | 289 | 215 | 252 | 521 | 200 | 307 | 1789 | 1760 | 1814 | 298 | 1788 |
| 90 | 297 | 219 | 259 | 840 | 203 | 326 | 1795 | 1765 | 1819 | 357 | 1794 |
| 91 | 303 | 223 | 268 | 1122 | 205 | 352 | 1810 | 1781 | 1829 | 412 | 1807 |
| 92 | 315 | 226 | 281 | 970 | 207 | 377 | 1796 | 1765 | 1815 | 396 | 1794 |