



# 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