VTEC Laboratories Inc.

November 2, 2005

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 B

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 16" inches from one side of the frame. One layer of 36"x36"x5/8" Supress Sound Engineered Drywall SED5848 was attached to one side of the frame and one layer of 5/8" Type X gypsum board was attached to the other side using 1 ¼" 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.

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 81°F.

At 81 minutes thermocouple #1 exceeded 406°F thus indicating failure. At 83 minutes the average of all thermocouples exceeded 331°F thus reaching a second failure criteria. At 85 minutes thermocouple 3 exceeded 406°F thus reaching another failure criteria. At 87 minutes the test was stopped and the furnace was shut off.

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

Rev1.0

Neil Schultz
Executive Director

A. Rahim

Amirudin Rahim
Technical Director

REVISION 1.0: Corrected 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	82	81	80	81	81	82	103	102	103	81	103
1	82	81	80	81	81	81	614	551	688	81	611
2	81	81	80	81	81	81	754	728	843	81	776
3	81	81	80	82	81	81	833	786	919	81	846
4	81	81	80	81	80	81	903	843	982	81	909
5	81	81	81	81	80	81	1037	1007	1098	81	1050
6	81	81	80	81	80	81	1049	992	1095	81	1045
7	82	81	81	82	80	82	1069	1014	1122	81	1068
8	84	81	83	83	81	84	1129	1070	1178	83	1126
9	86	82	85	86	81	87	1148	1092	1200	85	1146
10	89	82	89	89	82	91	1198	1144	1260	87	1200
11	93	83	92	92	82	95	1262	1210	1320	90	1263
12	97	84	96	95	83	100	1322	1270	1379	92	1322
13	100	85	100	99	84	104	1345	1302	1393	95	1347
14	103	86	103	102	86	108	1386	1341	1427	98	1381
15	106	87	107	105	87	112	1405	1367	1449	101	1407
16	109	88	110	108	88	115	1423	1389	1464	103	1425
17	111	89	114	111	90	119	1438	1406	1479	105	1440
18	91	91	117	113	91	122	1462	1427	1502	104	1464
19	89	92	120	116	93	126	1480	1441	1520	106	1480
20	111	94	123	119	95	128	1491	1463	1526	111	1494
21	116	95	125	121	96	131	1502	1475	1541	114	1506
22	120	97	127	123	98	133	1517	1490	1551	117	1519
23	123	99	129	125	100	135	1530	1506	1555	118	1530
24	125	100	131	126	101	137	1544	1545	1572	120	1553
25	127	102	132	127	103	138	1548	1548	1573	121	1557
26	128	103	132	128	104	139	1563	1552	1588	123	1569
27	129	105	133	129	108	140	1567	1558	1592	124	1573
28	130	106	134	129	106	140	1570	1554	1586	124	1570
29	131	107	134	130	107	141	1586	1564	1601	125	1584
30	132	108	135	131	109	141	1582	1564	1596	126	1581
31	133	110	136	132	111	142	1584	1564	1600	127	1583
32	135	112	138	134	112	144	1574	1550	1585	129	1570
33	136	113	140	137	114	146	1587	1563	1597	131	1582
34	139	115	142	139	117	148	1587	1558	1591	133	1577
35	141	118	144	142	119	149	1592	1561	1591	135	1582
36	144	120	146	145	121	152	1604	1575	1609	138	1596
37	147	122	149	148	124	154	1619	1588	1625	141	1609
38	149	124	151	151	126	156	1620	1588	1621	143	1608
39	152	127	153	154	128	158	1618	1587	1615	145	1607
40	154	129	155	157	131	160	1624	1594	1626	148	1613
41	157	131	157	159	133	161	1627	1605	1630	150	1620
42	159	133	159	162	135	163	1621	1618	1630	152	1623

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	161	135	161	164	137	165	1633	1621	1641	154	1631
44	163	136	163	166	139	167	1632	1614	1639	156	1628
45	165	138	165	168	141	168	1637	1640	1647	158	1640
46	167	140	167	170	143	170	1644	1662	1653	159	1653
47	168	142	168	172	145	171	1633	1657	1642	161	1642
48	170	143	170	173	147	172	1639	1655	1641	162	1645
49	172	144	172	176	149	174	1643	1665	1652	164	1653
50	174	145	174	178	151	176	1641	1660	1638	166	1648
51	176	147	176	180	153	178	1658	1690	1657	168	1668
52	178	148	179	183	154	181	1656	1686	1655	170	1666
53	180	149	181	184	156	183	1663	1706	1666	172	1677
54	182	150	183	186	157	185	1677	1685	1667	174	1676
55	184	151	185	188	159	187	1666	1688	1664	176	1673
56	186	152	187	191	160	190	1657	1686	1665	178	1670
57	187	153	189	193	161	192	1663	1704	1666	179	1676
58	189	154	191	195	163	195	1653	1695	1663	181	1668
59	190	155	193	198	164	197	1684	1715	1692	183	1697
60	192	156	195	202	165	200	1690	1707	1697	185	1697
61	193	158	198	206	166	202	1718	1717	1715	187	1717
62	195	159	200	209	168	207	1728	1712	1724	190	1723
63	196	160	202	212	169	212	1745	1726	1740	192	1736
64	198	162	204	215	171	216	1773	1749	1752	194	1759
65	199	164	207	217	174	221	1771	1756	1749	197	1757
66	200	165	210	219	174	224	1751	1753	1732	199	1744
67	202	167	214	220	176	226	1763	1767	1744	201	1758
68	203	168	215	222	178	229	1776	1763	1748	203	1762
69	204	170	217	224	180	232	1770	1762	1741	204	1758
70	205	172	219	226	182	236	1781	1767	1760	207	1768
71	207	174	221	228	184	241	1763	1751	1744	209	1753
72	208	177	224	230	186	244	1768	1741	1746	212	1751
73	210	180	226	233	188	249	1751	1737	1733	214	1740
74	211	183	230	236	190	254	1741	1722	1731	217	1733
75	214	185	233	238	191	258	1749	1731	1736	220	1739
76	215	188	236	241	192	261	1750	1731	1731	222	1740
77	217	190	242	244	194	266	1763	1723	1740	226	1743
78	219	193	246	247	195	276	1773	1747	1755	229	1758
79	221	195	249	251	196	296	1777	1748	1760	235	1760
80	224	197	252	255	197	367	1766	1762	1761	249	1763
81	226	199	259	262	199	487	1763	1757	1756	272	1757
82	228	201	273	271	201	604	1761	1762	1758	296	1761
83	230	204	319	284	201	707	1761	1746	1763	324	1756
84	233	207	405	310	202	821	1774	1759	1780	363	1770
85	236	211	509	356	202	960	1782	1763	1778	412	1773

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
86	239	217	856	421	204	1066	1787	1744	1775	501	1770
87	242	221	918	501	206	1096	1782	1740	1776	531	1765