

**SMALL SCALE ASTM E119
3-FT. COLUMN FIRE TESTING
FOR COTE-L INDUSTRIES, INC.
ON
CEASEFIRE SUPERIOR
VTEC #100-2469
TESTED: AUGUST 8, 2006
REVISION 1.0: AUGUST 18, 2006**



VTEC Laboratories Inc.

August 11, 2006

Client: Cote-L Industries, Inc.
1542 Jefferson Street
Teaneck, NJ 07666

Attention: Avi Aviner

Subject: ASTM E119 Fire Endurance Testing on 3-ft. Coated
Steel Column

SAMPLE DESCRIPTION:

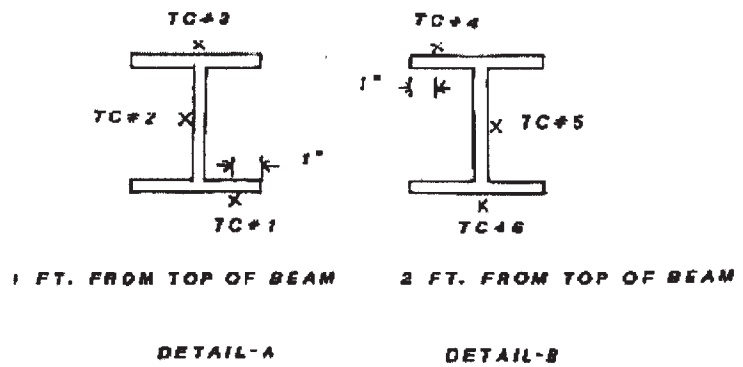
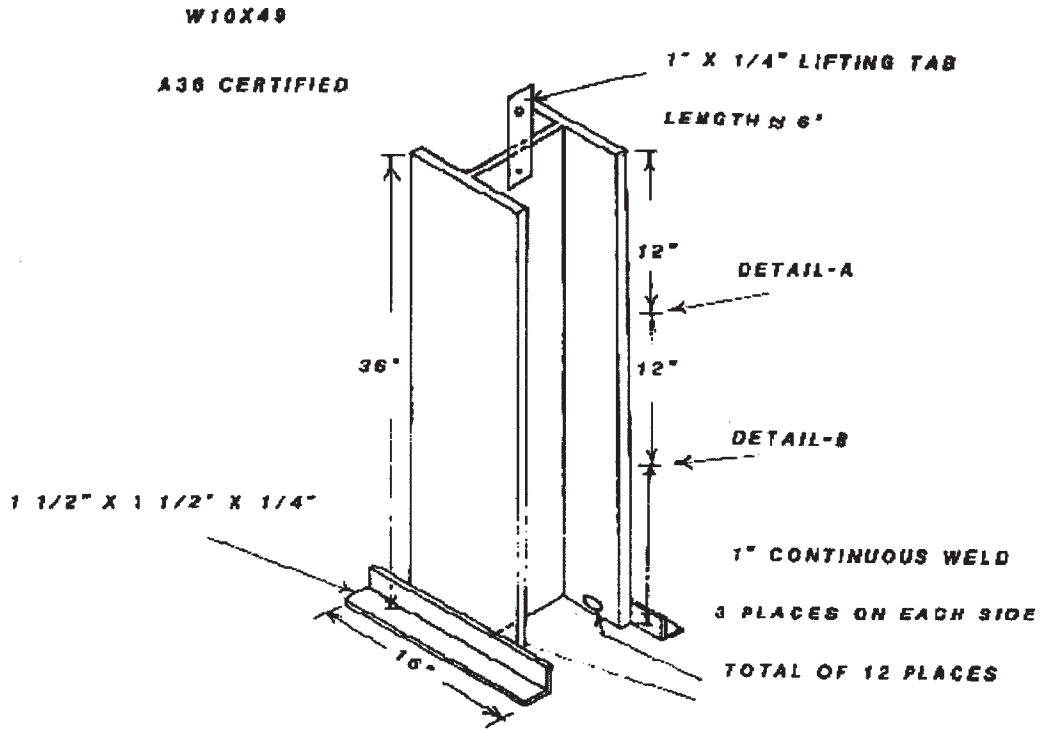
The sample was identified as follows: a W10x49 3-ft high steel column coated with CEASEFIRE Superior. Angles were welded to the base of the column to act as legs for support and lifting points. An additional lifting hook was bolted to the top of the column.

Six thermocouples were inserted into the column as noted on the drawing (see page 3). First, a 1/16" hole was drilled halfway into the steel, and the thermocouple was inserted. Then the thermocouple was peened into the steel with a hammer and punch to make a tight fit.

The coating was applied to the steel column using a standard trowel. The Epoxy Steel Coating was applied in one coat at a dry thickness of 3/8".

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BEAM FOR FIRE TESTING



PROCEDURE:

The furnace measures nominally 5 ft x 5 ft x 7 ft. The outside construction is steel and the furnace is lined with a ceramic refractory insulation. Four burners, one centered on each wall, provide uniform heat. Each 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 four 1/4" grounded Inconel-sheathed chromel-alumel thermocouples.

The endpoint for the ASTM E119 Column Test occurs when all the thermocouples on the sample reach an average temperature of 1000°F, or when any individual thermocouple on the sample reaches 1200°F.

OBSERVATIONS & RESULTS:

Material: CEASEFIRE Superior.

Dry Coating thickness: 3/8" Average

At 61 minutes, the average of all thermocouples exceeded 1000°F, thus reaching an end point.

At 63 minutes, thermocouple 3 exceeded 1200°F.

At 73 minutes, thermocouple 4 exceeded 1200°F.

At 79 minutes the furnace was shut off and the test was stopped.

The actual time-temperature data appear on the following pages.


Neil Schultz
Executive Director


Amirudin Rahim
Technical Director

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. It 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, that takes into account all of the factors that are pertinent to an assessment of fire hazard of a particular end use.

REVISION 1.0: Material name corrected to INTUMAX EP115x-STL

Time (min)	TC 1		TC 2		TC 3		TC 4		TC 5		TC 6		TC 13		TC 14		TC 15		TC 16		TC 17 Sample Average		TC 18 Furnace Average	
	Sample	Deg.F	Sample	Deg.F	Sample	Deg.F	Sample	Deg.F	Sample	Deg.F	Sample	Deg.F	Furnace	Deg.F	Furnace	Deg.F	Furnace	Deg.F	Furnace	Deg.F	Average	Deg.F	Average	Deg.F
0	N/A	83	83	83	83	83	83	83	83	83	83	N/A	93	93	93	94	95	95	94	83	83	83	91	91
1	N/A	87	84	84	84	84	84	84	83	83	84	N/A	512	512	514	516	514	514	516	85	85	85	515	515
2	N/A	118	97	97	97	97	98	98	96	96	88	N/A	847	847	837	831	837	837	831	99	99	99	838	838
3	N/A	161	121	121	121	122	122	122	121	121	99	N/A	921	921	922	920	922	922	920	125	125	125	921	921
4	N/A	205	150	150	150	149	149	149	153	153	116	N/A	1017	1017	1042	1047	1042	1042	1047	155	155	155	1031	1031
5	N/A	249	184	184	184	177	177	177	186	186	138	N/A	1120	1120	1124	1119	1124	1124	1119	187	187	187	1123	1123
6	N/A	285	218	218	218	204	204	204	218	218	161	N/A	1079	1079	1074	1070	1074	1074	1070	217	217	217	1074	1074
7	N/A	314	250	250	250	230	230	230	247	247	186	N/A	1096	1096	1083	1094	1083	1083	1094	245	245	245	1088	1088
8	N/A	341	277	277	277	253	253	253	272	272	209	N/A	1127	1127	1130	1132	1130	1130	1132	270	270	270	1132	1132
9	N/A	364	304	304	304	275	275	275	297	297	232	N/A	1199	1199	1198	1205	1198	1198	1205	294	294	294	1201	1201
10	N/A	385	328	328	328	296	296	296	318	318	253	N/A	1243	1243	1270	1273	1270	1270	1273	316	316	316	1268	1268
11	N/A	404	350	350	350	316	316	316	330	330	273	N/A	1331	1331	1321	1324	1321	1321	1324	335	335	335	1323	1323
12	N/A	421	370	370	370	334	334	334	344	344	292	N/A	1346	1346	1354	1356	1354	1354	1356	352	352	352	1353	1353
13	N/A	436	388	388	388	352	352	352	358	358	811	N/A	1384	1384	1386	1384	1386	1386	1384	469	469	469	1382	1382
14	N/A	449	404	404	404	370	370	370	371	371	330	N/A	1401	1401	1399	1397	1399	1399	1397	385	385	385	1403	1403
15	N/A	462	420	420	420	389	389	389	384	384	346	N/A	1412	1412	1418	1418	1418	1418	1418	400	400	400	1413	1413
16	N/A	472	434	434	434	410	410	410	397	397	360	N/A	1431	1431	1430	1433	1430	1430	1433	415	415	415	1429	1429
17	N/A	482	448	448	448	430	430	430	408	408	373	N/A	1442	1442	1437	1445	1437	1437	1445	428	428	428	1444	1444
18	N/A	491	463	463	463	453	453	453	419	419	386	N/A	1462	1462	1464	1459	1464	1464	1459	442	442	442	1459	1459
19	N/A	499	478	478	478	475	475	475	430	430	399	N/A	1388	1388	1400	1393	1400	1400	1393	456	456	456	1394	1394
20	N/A	506	493	493	493	498	498	498	439	439	412	N/A	1374	1374	1379	1376	1379	1379	1376	470	470	470	1375	1375
21	N/A	513	509	509	509	521	521	521	448	448	426	N/A	1427	1427	1421	1435	1421	1421	1435	483	483	483	1429	1429
22	N/A	520	525	525	525	545	545	545	456	456	440	N/A	1488	1488	1492	1484	1492	1492	1484	497	497	497	1482	1482
23	N/A	525	542	542	542	567	567	567	464	464	453	N/A	1534	1534	1537	1530	1537	1537	1530	510	510	510	1536	1536
24	N/A	531	561	561	561	588	588	588	472	472	466	N/A	1584	1584	1591	1586	1591	1591	1586	524	524	524	1590	1590
25	N/A	536	580	580	580	607	607	607	479	479	479	N/A	1643	1643	1638	1650	1638	1638	1650	536	536	536	1643	1643
26	N/A	541	602	602	602	623	623	623	486	486	492	N/A	1656	1656	1662	1658	1662	1662	1658	549	549	549	1656	1656
27	N/A	513	509	509	509	521	521	521	448	448	426	N/A	1671	1671	1667	1667	1667	1667	1667	483	483	483	1669	1669
28	N/A	552	639	639	639	659	659	659	500	500	520	N/A	1683	1683	1674	1689	1674	1674	1689	574	574	574	1682	1682
29	N/A	560	660	660	660	672	672	672	507	507	534	N/A	1695	1695	1694	1699	1694	1694	1699	586	586	586	1695	1695
30	N/A	567	682	682	682	691	691	691	513	513	547	N/A	1711	1711	1701	1708	1701	1701	1708	600	600	600	1708	1708
31	N/A	575	699	699	699	707	707	707	519	519	562	N/A	1705	1705	1703	1702	1703	1703	1702	613	613	613	1698	1698
32	N/A	584	722	722	722	723	723	723	525	525	580	N/A	1695	1695	1685	1693	1685	1685	1693	627	627	627	1693	1693
33	N/A	593	739	739	739	738	738	738	531	531	593	N/A	1685	1685	1682	1683	1682	1682	1683	639	639	639	1685	1685

Time (min)	TC 1		TC 2		TC 3		TC 4		TC 5		TC 6		TC 13		TC 14		TC 15		TC 16		TC 17 Sample		TC 18 Furnace	
	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Furnace	Deg. F	Furnace	Deg. F	Furnace	Deg. F	Furnace	Deg. F	Average	Deg. F	Average	Deg. F
34	N/A	601	763	754	537	610	1674	1668	1676	1674	1668	1676	1676	1674	1672	1676	1676	1676	1672	1672	653	653	1674	1674
35	N/A	608	783	769	544	624	1676	1674	1676	1674	1674	1676	1673	1674	1677	1673	1673	1673	1677	1677	665	665	1673	1673
36	N/A	616	801	781	551	640	1662	1668	1662	1662	1668	1662	1662	1660	1660	1661	1661	1660	1660	1660	678	678	1665	1665
37	N/A	634	825	802	559	659	1647	1655	1647	1647	1655	1647	1647	1649	1649	1646	1646	1649	1649	696	696	1650	1650	
38	N/A	645	844	812	566	671	1651	1653	1651	1651	1653	1651	1651	1650	1650	1650	1650	1650	1650	708	708	1648	1648	
39	N/A	657	864	831	574	685	1640	1639	1640	1640	1639	1640	1639	1641	1641	1639	1639	1641	1641	722	722	1639	1639	
40	N/A	666	879	841	585	704	1631	1633	1631	1631	1633	1631	1631	1632	1632	1633	1633	1632	1632	735	735	1633	1633	
41	N/A	679	902	859	592	721	1630	1624	1630	1630	1624	1630	1627	1628	1628	1627	1627	1628	1628	751	751	1623	1623	
42	N/A	692	919	874	597	734	1618	1626	1618	1618	1626	1618	1619	1611	1611	1619	1619	1611	1611	763	763	1617	1617	
43	N/A	706	935	886	607	752	1601	1594	1601	1601	1594	1601	1589	1593	1593	1589	1589	1593	1593	777	777	1597	1597	
44	N/A	716	953	898	616	768	1604	1603	1604	1604	1603	1604	1605	1595	1595	1605	1605	1595	1595	790	790	1601	1601	
45	N/A	733	966	905	622	784	1632	1629	1632	1632	1629	1632	1621	1634	1634	1621	1621	1634	1634	802	802	1629	1629	
46	N/A	747	984	920	634	800	1662	1602	1662	1662	1602	1662	1638	1664	1664	1638	1638	1664	1664	817	817	1641	1641	
47	N/A	762	998	934	640	816	1653	1605	1653	1653	1605	1653	1636	1662	1662	1636	1636	1662	1662	830	830	1639	1639	
48	N/A	773	1010	943	650	830	1661	1604	1661	1661	1604	1661	1638	1665	1665	1638	1638	1665	1665	841	841	1641	1641	
49	N/A	789	1028	952	660	846	1668	1610	1668	1668	1610	1668	1637	1669	1669	1637	1637	1669	1669	855	855	1643	1643	
50	N/A	804	1041	962	665	861	1673	1614	1673	1673	1614	1673	1651	1685	1685	1651	1651	1685	1685	867	867	1656	1656	
51	N/A	820	1057	975	677	876	1678	1610	1678	1678	1610	1678	1660	1682	1682	1660	1660	1682	1682	881	881	1658	1658	
52	N/A	838	1072	986	688	892	1680	1622	1680	1680	1622	1680	1669	1692	1692	1669	1669	1692	1692	895	895	1662	1662	
53	N/A	854	1086	999	697	906	1683	1627	1683	1683	1627	1683	1674	1696	1696	1674	1674	1696	1696	908	908	1670	1670	
54	N/A	875	1099	1010	707	921	1687	1634	1687	1687	1634	1687	1676	1703	1703	1676	1676	1703	1703	923	923	1674	1674	
55	N/A	887	1110	1018	716	934	1689	1629	1689	1689	1629	1689	1669	1700	1700	1669	1669	1700	1700	933	933	1673	1673	
56	N/A	908	1127	1031	726	948	1690	1630	1690	1690	1630	1690	1673	1700	1700	1673	1673	1700	1700	948	948	1674	1674	
57	N/A	929	1138	1040	737	962	1703	1649	1703	1703	1649	1703	1698	1733	1733	1698	1698	1733	1733	961	961	1696	1696	
58	N/A	948	1148	1052	742	971	1703	1662	1703	1703	1662	1703	1705	1737	1737	1705	1705	1737	1737	972	972	1702	1702	
59	N/A	966	1163	1064	757	988	1709	1665	1709	1709	1665	1709	1707	1721	1721	1707	1707	1721	1721	988	988	1701	1701	
60	N/A	985	1170	1072	767	997	1714	1667	1714	1714	1667	1714	1710	1708	1708	1710	1710	1708	1708	998	998	1699	1699	
61	N/A	1000	1187	1087	777	1011	1723	1664	1723	1723	1664	1723	1705	1711	1711	1705	1705	1711	1711	1012	1012	1702	1702	
62	N/A	1020	1199	1093	787	1025	1726	1673	1726	1726	1673	1726	1714	1734	1734	1714	1714	1734	1734	1025	1025	1713	1713	
63	N/A	1036	1217	1105	799	1034	1730	1679	1730	1730	1679	1730	1712	1750	1750	1712	1712	1750	1750	1038	1038	1718	1718	
64	N/A	1052	1229	1116	814	1049	1724	1677	1724	1724	1677	1724	1718	1753	1753	1718	1718	1753	1753	1052	1052	1716	1716	
65	N/A	1067	1242	1126	828	1062	1724	1681	1724	1724	1681	1724	1714	1755	1755	1714	1714	1755	1755	1065	1065	1719	1719	
66	N/A	1083	1254	1137	841	1074	1730	1690	1730	1730	1690	1730	1715	1757	1757	1715	1715	1757	1757	1078	1078	1721	1721	
67	N/A	1097	1261	1144	855	1087	1733	1687	1733	1733	1687	1733	1715	1760	1760	1715	1715	1760	1760	1089	1089	1724	1724	

Time (min)	TC 1		TC 2		TC 3		TC 4		TC 5		TC 6		TC 13		TC 14		TC 15		TC 16		TC 17 Sample Average		TC 18 Furnace Average	
	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Sample	Deg. F	Furnace	Deg. F	Furnace	Deg. F	Furnace	Deg. F	Furnace	Deg. F	Average	Deg. F	Average	Deg. F
68	N/A	1112	1276	1157	869	1098	1733	1690	1713	1761	1103	1724									1103	1724		
69	N/A	1128	1290	1165	883	1110	1725	1694	1714	1758	1115	1721									1115	1721		
70	N/A	1145	1303	1175	898	1122	1723	1692	1715	1760	1128	1722									1128	1722		
71	N/A	1157	1315	1184	912	1135	1719	1696	1717	1763	1141	1721									1141	1721		
72	N/A	1173	1323	1193	927	1145	1717	1692	1716	1758	1152	1723									1152	1723		
73	N/A	1187	1338	1203	941	1156	1718	1698	1718	1763	1165	1723									1165	1723		
74	N/A	1200	1348	1211	955	1162	1712	1693	1718	1763	1175	1722									1175	1722		
75	N/A	1209	1359	1215	963	1173	1714	1696	1718	1763	1184	1723									1184	1723		
76	N/A	1226	1368	1227	980	1186	1717	1708	1731	1777	1197	1733									1197	1733		
77	N/A	1239	1381	1235	992	1195	1732	1724	1743	1795	1209	1749									1209	1749		
78	N/A	1250	1394	1242	1004	1206	1742	1732	1754	1807	1219	1761									1219	1761		
79	N/A	1265	1416	1255	1016	1217	1748	1741	1760	1814	1234	1763									1234	1763		

TC #1 and #13 malfunctioned.