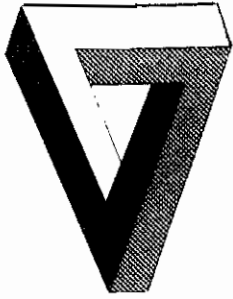


SMALL SCALE ASTM E119 TESTING
FOR
SUPERIOR PRODUCTS
ON
HOT PIPE COATING AND OMEGA FIRE
ON 12" HIGH I-BEAM
VTEC #100-2830-2
TESTED: FEBRUARY 29, 2008



VTEC Laboratories Inc.

March 4, 2008

Client: Superior Products
10835 W. 78th Street
Shawnee, KS 66214

Attn: J.E. Pritchett

Subject: ASTM E119 Fire Endurance Testing on Coated Steel I-Beam

SAMPLE DESCRIPTION:

The sample was identified as follows:

A W10x49 12" high steel I-beam was coated with Omega Fire and Hot Pipe Coating. The I-beam was welded on a 14" x 14" x 0.5" thick steel plate. The Hot Pipe Coating was applied at a dry thickness of about 2,243 mils. The Omega Fire Coating was applied over the Hot Pipe Coating at a dry thickness of about 1,122 mils. The actual total dry thickness of the two coatings was measured as 3,365 mils. Two thermocouples were inserted into the I-beam under the coatings.

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.

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:

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. 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. A transition piece was placed on the front of the furnace that had an opening of 12" x 12" where the sample was to be placed. The sample was placed through this opening so that the I-Beam is exposed to the inside of the furnace and supported by the 1/2" plate.

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

The endpoint for this ASTM E119 Test occurs when all the thermocouples on the sample reach an average of 1,000°F, or when any individual thermocouple on the sample reaches 1,200°F.


RESULTS:

Time (hours)	Average Temperature (deg. F)
0	50
1	53
2	73
3	107
4	148
5	209
6	363
7	607

After 7 hours the furnace was voluntarily shut off with none of the endpoint criteria met.

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


Neil Schultz
Executive Director


Amirudin Rahim
Technical Director

Time (min)	Sample - Top Left (Deg. F)	Sample - Bottom Right (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Avg. of Sample Side (Deg. F)	Avg. of Furnace (Deg. F)
0	51	50	51	51	51	50	51
1	51	50	542	497	559	50	529
2	51	50	600	543	616	50	686
3	51	50	679	617	705	50	767
4	51	50	778	711	798	51	861
5	51	50	921	804	936	50	984
6	50	50	965	846	978	50	1029
7	51	50	1029	966	1103	50	1136
8	51	50	1098	1088	1141	51	1208
9	51	50	1144	1121	1182	51	1249
10	51	50	1183	1140	1211	51	1280
11	51	50	1290	1194	1300	51	1360
12	51	50	1335	1172	1401	50	1402
13	51	50	1341	1162	1338	51	1382
14	51	50	1356	1168	1364	51	1394
15	51	50	1360	1144	1427	51	1411
16	51	50	1368	1133	1405	51	1430
17	51	50	1421	1297	1477	51	1458
18	51	50	1459	1437	1501	51	1466
19	51	50	1456	1452	1527	51	1479
20	51	51	1451	1390	1492	51	1444
21	51	50	1449	1461	1487	51	1466
22	51	51	1463	1371	1492	51	1438
23	51	51	1461	1331	1481	51	1422
24	51	51	1467	1288	1504	51	1419
25	51	51	1532	1317	1541	51	1463
26	51	51	1547	1324	1560	51	1481
27	51	50	1575	1364	1603	51	1514
28	51	51	1578	1355	1621	51	1516
29	51	51	1590	1375	1624	51	1527
30	51	51	1603	1352	1619	51	1527
31	51	51	1593	1297	1627	51	1509
32	51	51	1614	1271	1644	51	1508
33	51	51	1607	1256	1645	51	1504
34	51	51	1694	1319	1701	51	1571
35	51	51	1710	1439	1706	51	1618
36	51	51	1726	1496	1749	51	1657
37	51	51	1731	1572	1761	51	1688
38	51	51	1742	1661	1760	51	1723
39	51	51	1734	1651	1761	51	1712
40	51	51	1752	1676	1770	51	1734
41	51	51	1697	1653	1716	51	1690
42	51	51	1661	1595	1678	51	1645
43	51	51	1637	1595	1660	51	1629
44	51	51	1634	1563	1641	51	1614
45	51	51	1626	1558	1648	51	1610
46	52	51	1617	1571	1646	51	1612
47	52	51	1621	1543	1638	51	1600
48	52	51	1617	1555	1631	51	1601
49	52	51	1639	1523	1663	51	1608
50	52	51	1665	1537	1688	52	1631
51	52	51	1676	1607	1709	52	1663
52	52	52	1692	1588	1718	52	1668

Time (min)	Sample - Top Left (Deg. F)	Sample - Bottom Right (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Avg. of Sample Side (Deg. F)	Avg. of Furnace (Deg. F)
53	52	52	1701	1563	1724	52	1663
54	52	52	1698	1533	1742	52	1658
55	52	52	1720	1557	1735	52	1671
56	53	52	1727	1538	1742	52	1669
57	53	52	1733	1573	1755	52	1683
58	53	52	1743	1603	1766	52	1704
59	53	52	1733	1516	1769	53	1674
60	53	52	1734	1466	1761	53	1653
61	53	53	1741	1471	1764	53	1659
62	53	53	1764	1493	1784	53	1679
63	54	53	1785	1504	1797	53	1698
64	54	53	1781	1486	1805	53	1694
65	54	53	1784	1541	1803	54	1714
66	54	54	1791	1540	1812	54	1716
67	54	54	1798	1539	1821	54	1719
68	54	54	1793	1549	1817	54	1719
69	55	54	1799	1561	1819	54	1726
70	55	54	1806	1601	1833	55	1751
71	55	55	1798	1602	1839	55	1747
72	56	55	1806	1606	1839	55	1750
73	56	55	1804	1613	1841	55	1753
74	56	55	1809	1657	1848	56	1768
75	56	56	1808	1694	1847	56	1778
76	56	56	1807	1679	1851	56	1779
77	57	56	1811	1649	1846	56	1769
78	57	56	1812	1679	1854	57	1784
79	57	57	1816	1663	1869	57	1777
80	58	57	1821	1666	1871	57	1782
81	58	57	1818	1638	1862	57	1775
82	58	57	1823	1711	1882	58	1804
83	58	58	1822	1700	1877	58	1799
84	59	58	1827	1730	1880	58	1811
85	59	58	1817	1680	1879	59	1793
86	59	59	1797	1638	1865	59	1766
87	60	59	1811	1735	1875	59	1807
88	60	60	1809	1757	1878	60	1813
89	60	60	1810	1739	1876	60	1808
90	61	60	1802	1769	1879	61	1818
91	61	60	1809	1751	1884	61	1814
92	61	61	1811	1765	1879	61	1821
93	62	61	1816	1741	1878	61	1812
94	62	61	1813	1756	1876	62	1817
95	63	61	1820	1759	1890	62	1823
96	63	62	1818	1767	1890	63	1825
97	63	63	1810	1770	1878	63	1822
98	64	63	1811	1767	1885	63	1821
99	64	63	1814	1747	1879	64	1815
100	65	64	1802	1729	1873	64	1807
101	65	64	1813	1760	1879	64	1817
102	65	65	1810	1775	1878	65	1820
103	66	65	1821	1734	1878	65	1811
104	66	65	1810	1713	1879	66	1802
105	67	66	1808	1700	1874	66	1801

Time (min)	Sample - Top Left (Deg. F)	Sample - Bottom Right (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Avg. of Sample Side (Deg. F)	Avg. of Furnace (Deg. F)
106	67	66	1806	1739	1867	67	1805
107	68	67	1810	1730	1879	67	1808
108	68	67	1809	1721	1883	68	1802
109	68	68	1830	1739	1899	68	1823
110	69	68	1831	1746	1886	69	1823
111	70	68	1832	1744	1900	69	1825
112	70	69	1839	1801	1907	70	1851
113	71	69	1849	1757	1910	70	1839
114	71	70	1847	1785	1917	71	1850
115	71	71	1855	1791	1918	71	1855
116	72	71	1861	1759	1923	71	1845
117	73	72	1859	1638	1922	72	1807
118	73	72	1865	1667	1929	73	1818
119	73	72	1864	1692	1928	73	1828
120	74	73	1863	1718	1927	73	1838
121	74	73	1870	1723	1924	74	1842
122	75	74	1876	1751	1940	74	1854
123	75	74	1882	1751	1944	75	1856
124	76	75	1880	1737	1947	75	1853
125	76	75	1875	1692	1933	76	1835
126	77	76	1883	1669	1930	76	1828
127	77	77	1889	1710	1939	77	1843
128	78	77	1883	1675	1938	77	1831
129	78	77	1906	1757	1963	78	1878
130	79	78	1913	1714	1961	78	1863
131	79	78	1915	1725	1966	79	1868
132	80	79	1924	1736	1974	79	1879
133	80	79	1918	1779	1962	80	1888
134	81	80	1920	1851	1975	81	1917
135	82	81	1917	1854	1973	81	1912
136	82	81	1900	1839	1953	82	1897
137	83	82	1892	1830	1946	82	1890
138	83	82	1890	1837	1937	83	1888
139	84	83	1890	1837	1935	83	1891
140	84	84	1894	1838	1944	84	1892
141	85	84	1892	1866	1934	85	1895
142	86	85	1875	1876	1929	85	1893
143	86	85	1871	1837	1932	86	1882
144	87	86	1882	1832	1933	86	1885
145	87	86	1884	1833	1938	87	1885
146	88	87	1885	1838	1926	87	1886
147	88	87	1886	1832	1933	88	1883
148	89	88	1881	1846	1917	88	1881
149	89	88	1871	1832	1909	89	1870
150	90	89	1875	1835	1925	89	1880
151	91	90	1874	1832	1924	90	1876
152	91	90	1886	1821	1932	91	1876
153	92	91	1876	1853	1919	91	1883
154	92	91	1878	1831	1928	92	1877
155	93	92	1876	1846	1915	93	1877
156	94	92	1883	1851	1922	93	1884
157	94	93	1889	1853	1940	94	1894
158	95	94	1911	1851	1953	94	1904

<u>Time (min)</u>	<u>Sample - Top Left (Deg. F)</u>	<u>Sample - Bottom Right (Deg. F)</u>	<u>Furnace Temp. (Deg. F)</u>	<u>Furnace Temp. (Deg. F)</u>	<u>Furnace Temp. (Deg. F)</u>	<u>Avg. of Sample Side (Deg. F)</u>	<u>Avg. of Furnace (Deg. F)</u>
159	95	94	1900	1834	1938	95	1890
160	96	95	1893	1838	1941	95	1895
161	96	95	1891	1840	1932	96	1888
162	97	96	1900	1862	1948	97	1905
163	98	97	1911	1865	1949	97	1906
164	98	97	1915	1864	1956	98	1910
165	99	98	1912	1867	1941	99	1907
166	100	98	1912	1860	1954	99	1908
167	100	99	1922	1857	1959	100	1912
168	101	100	1903	1839	1945	100	1898
169	102	101	1915	1842	1964	101	1909
170	102	101	1910	1853	1951	102	1905
171	103	102	1919	1849	1953	102	1907
172	103	102	1917	1851	1952	103	1910
173	104	103	1919	1863	1941	103	1907
174	104	103	1925	1861	1950	104	1910
175	105	104	1924	1861	1950	104	1912
176	105	104	1920	1869	1948	105	1913
177	106	105	1915	1879	1935	105	1909
178	106	105	1912	1895	1932	106	1913
179	107	106	1916	1879	1930	107	1911
180	108	107	1949	1926	1969	107	1945
181	108	107	1910	1892	1928	108	1914
182	109	108	1907	1879	1932	108	1904
183	110	109	1927	1900	1942	109	1924
184	110	109	1937	1886	1984	110	1936
185	111	110	1949	1888	1967	110	1934
186	111	110	1937	1907	1972	111	1938
187	112	111	1953	1910	1984	112	1943
188	113	112	1954	1917	1969	112	1947
189	113	112	1960	1908	1985	113	1951
190	114	113	1933	1934	1958	113	1945
191	114	114	1953	1900	1987	114	1947
192	115	114	1949	1920	1987	115	1954
193	116	115	1955	1912	1984	116	1951
194	116	116	1945	1933	1968	116	1948
195	117	117	1952	1936	1965	117	1951
196	118	117	1957	1916	1977	118	1950
197	119	118	1958	1926	1976	118	1953
198	119	119	1971	1930	1973	119	1960
199	120	119	1960	1928	1971	120	1954
200	121	120	1965	1922	1985	120	1960
201	121	121	1970	1945	1974	121	1961
202	122	121	1959	1937	1973	122	1956
203	123	122	1957	1939	1954	122	1954
204	123	122	1969	1920	1988	123	1959
205	124	124	1960	1931	1956	124	1950
206	124	124	1960	1920	1964	124	1948
207	125	125	1949	1937	1949	125	1945
208	126	125	1967	1936	1946	125	1945
209	126	126	1981	1936	1982	126	1968
210	127	127	1969	1949	1965	127	1963
211	128	128	1990	1944	1991	127	1975

Time (min)	Sample - Top Left (Deg. F)	Sample - Bottom Right (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Avg. of Sample Side (Deg. F)	Avg. of Furnace (Deg. F)
212	128	128	1976	1966	1975	128	1972
213	129	129	1987	1967	1975	129	1976
214	130	130	1980	1972	1969	129	1976
215	130	130	1992	1957	1988	130	1976
216	131	131	1993	1965	1984	131	1979
217	131	131	1946	1952	1934	131	1944
218	132	132	1980	1960	1979	132	1973
219	133	133	1981	1968	1976	133	1973
220	133	133	1987	1971	1968	133	1975
221	134	134	1994	1961	1996	134	1984
222	134	135	1995	1972	1975	135	1981
223	136	136	1986	1966	1976	135	1975
224	136	136	1980	1974	1975	136	1976
225	137	137	1997	1959	1985	137	1981
226	137	137	2000	1971	1985	137	1986
227	138	138	1997	1966	1997	138	1987
228	139	139	1987	1964	1983	139	1977
229	140	140	1989	1966	1985	140	1981
230	140	141	1986	1973	1981	140	1977
231	141	141	1990	1963	1993	141	1983
232	142	142	1979	1974	1960	142	1972
233	142	143	1990	1972	1985	142	1982
234	143	143	2003	1961	2000	143	1989
235	143	144	1976	1977	1977	144	1977
236	144	145	1985	1959	1963	145	1971
237	145	146	1983	1975	1972	145	1976
238	146	147	2000	1960	1979	146	1983
239	147	148	1992	1954	1977	147	1974
240	148	148	1996	1964	1977	148	1980
241	148	149	1958	1946	1948	149	1953
242	149	150	1984	1948	1986	149	1973
243	150	150	2006	1968	1979	150	1984
244	150	151	2007	1979	1974	151	1987
245	151	152	1965	1950	1943	151	1950
246	152	153	1946	1938	1930	153	1938
247	153	154	1927	1923	1928	153	1924
248	154	155	1966	1914	1961	154	1944
249	154	156	1995	1965	1992	155	1992
250	155	157	2004	1968	2002	156	1994
251	156	157	2003	1997	1997	157	2003
252	157	158	2017	2002	2014	157	2011
253	157	159	2035	2006	2031	158	2022
254	158	160	2027	2006	2010	159	2013
255	159	161	2035	2017	2044	160	2031
256	160	161	2038	2029	2036	161	2035
257	161	162	2049	2024	2044	162	2035
258	162	163	2044	2030	2039	162	2039
259	162	164	2039	2023	2026	163	2028
260	163	165	2052	2030	2014	164	2029
261	164	165	2038	2026	2022	165	2029
262	165	167	2048	2037	2020	165	2037
263	165	167	2030	2034	2015	167	2026
264	166	168	2037	2034	2018	167	2030

Time (min)	Sample - Top Left (Deg. F)	Sample - Bottom Right (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Avg. of Sample Side (Deg. F)	Avg. of Furnace (Deg. F)
265	167	169	2050	2030	2020	168	2033
266	168	170	2044	2023	2037	169	2034
267	169	171	2045	2010	2021	170	2023
268	170	172	2036	2036	2023	171	2032
269	171	173	2042	2030	2017	172	2031
270	172	174	2046	2017	2026	173	2029
271	173	175	2044	2034	2029	174	2036
272	173	176	2052	2031	2025	174	2033
273	174	176	2052	2036	2022	175	2038
274	175	177	2055	2048	2030	176	2045
275	176	178	2050	2035	2032	177	2041
276	177	179	2061	2038	2045	178	2047
277	178	180	2050	2042	2039	179	2045
278	179	181	2044	2042	2021	180	2037
279	180	182	2055	2025	2034	181	2038
280	181	183	2037	2046	2021	182	2035
281	182	184	2066	2033	2036	183	2042
282	183	186	2047	2039	2019	184	2040
283	184	187	2061	2041	2034	185	2046
284	184	187	2066	2044	2072	186	2061
285	186	188	2063	2076	2063	187	2067
286	187	190	2081	2075	2070	188	2076
287	188	191	2063	2077	2059	190	2072
288	189	193	2083	2090	2072	191	2082
289	191	194	2094	2081	2064	192	2078
290	191	195	2093	2075	2070	194	2079
291	193	197	2079	2079	2063	195	2080
292	194	199	2099	2098	2089	196	2104
293	195	200	2093	2094	2096	198	2092
294	197	202	2108	2081	2103	199	2097
295	198	204	2104	2090	2098	201	2097
296	200	205	2095	2103	2072	202	2089
297	201	207	2094	2085	2065	204	2083
298	202	209	2083	2075	2087	206	2078
299	204	211	2093	2092	2069	207	2079
300	205	213	2093	2079	2061	209	2080
301	207	214	2071	2068	2057	210	2067
302	208	216	2099	2088	2073	212	2089
303	210	218	2090	2088	2092	214	2090
304	211	220	2072	2085	2069	216	2075
305	213	222	2074	2074	2080	217	2072
306	215	224	2075	2074	2086	219	2078
307	216	226	2093	2071	2075	221	2080
308	218	227	2096	2076	2073	223	2082
309	219	230	2084	2069	2066	225	2075
310	221	232	2094	2086	2087	226	2085
311	223	234	2090	2076	2065	229	2078
312	224	236	2092	2068	2068	230	2076
313	226	238	2093	2083	2071	232	2086
314	228	241	2105	2081	2098	234	2087
315	230	243	2091	2094	2100	236	2092
316	231	245	2087	2086	2075	238	2086
317	234	248	2092	2075	2090	240	2085

Time (min)	Sample - Top Left (Deg. F)	Sample - Bottom Right (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Furnace Temp. (Deg. F)	Avg. of Sample Side (Deg. F)	Avg. of Furnace (Deg. F)
318	236	250	2091	2083	2084	243	2084
319	237	252	2075	2082	2062	245	2073
320	240	255	2095	2087	2096	247	2089
321	242	257	2098	2077	2035	249	2074
322	244	260	2111	2083	2080	252	2093
323	246	262	2108	2078	2096	254	2094
324	248	265	2111	2104	2109	256	2112
325	251	268	2085	2108	2082	259	2095
326	253	270	2114	2104	2097	261	2103
327	255	273	2110	2089	2091	264	2101
328	257	275	2100	2089	2086	266	2090
329	260	278	2114	2079	2096	269	2094
330	262	281	2097	2088	2055	272	2085
331	265	284	2113	2096	2099	274	2104
332	268	287	2092	2090	2093	277	2092
333	270	290	2107	2094	2085	280	2097
334	273	293	2101	2099	2096	283	2099
335	275	295	2122	2098	2108	285	2111
336	278	298	2143	2114	2122	288	2127
337	281	301	2139	2128	2144	291	2140
338	283	305	2153	2137	2128	293	2139
339	285	308	2146	2113	2133	297	2126
340	289	311	2150	2126	2136	300	2137
341	291	314	2147	2125	2135	302	2133
342	294	317	2130	2142	2133	305	2139
343	296	320	2147	2128	2141	308	2139
344	299	323	2160	2139	2121	311	2140
345	302	326	2147	2142	2137	314	2142
346	306	330	2144	2140	2145	318	2140
347	308	333	2159	2131	2139	320	2141
348	311	335	2160	2134	2137	323	2143
349	315	339	2147	2130	2116	326	2134
350	317	342	2147	2126	2131	330	2136
351	320	346	2165	2153	2129	333	2154
352	323	349	2147	2136	2128	336	2139
353	327	352	2144	2126	2139	340	2135
354	330	356	2153	2141	2144	343	2148
355	333	360	2154	2126	2126	346	2136
356	335	363	2127	2130	2115	349	2129
357	339	367	2151	2122	2124	352	2130
358	343	370	2156	2129	2123	356	2138
359	346	374	2142	2128	2128	360	2133
360	349	377	2159	2142	2149	363	2147
361	353	381	2149	2158	2123	367	2147
362	356	385	2154	2137	2144	370	2143
363	359	388	2150	2128	2143	374	2139
364	363	392	2151	2140	2149	378	2146
365	367	396	2168	2159	2158	381	2164
366	370	400	2167	2138	2175	385	2158
367	374	404	2157	2137	2159	389	2148
368	378	407	2146	2134	2139	393	2140
369	381	412	2168	2158	2175	396	2157
370	385	415	2153	2156	2126	400	2145

<u>Time</u> <u>(min)</u>	<u>Sample - Top</u> <u>Left (Deg. F)</u>	<u>Sample - Bottom</u> <u>Right (Deg. F)</u>	<u>Furnace Temp.</u> <u>(Deg. F)</u>	<u>Furnace Temp.</u> <u>(Deg. F)</u>	<u>Furnace Temp.</u> <u>(Deg. F)</u>	<u>Avg. of Sample</u> <u>Side (Deg. F)</u>	<u>Avg. of</u> <u>Furnace (Deg. F)</u>
371	389	419	2159	2174	2148	404	2160
372	392	424	2160	2120	2160	408	2147
373	396	428	2172	2149	2184	412	2163
374	400	432	2167	2160	2174	416	2165
375	404	436	2165	2136	2153	420	2149
376	408	440	2163	2146	2180	424	2158
377	412	444	2172	2147	2175	428	2159
378	416	449	2159	2159	2162	432	2160
379	420	452	2168	2159	2129	436	2152
380	424	457	2173	2156	2157	440	2163
381	428	461	2177	2175	2186	444	2186
382	432	465	2181	2153	2165	448	2169
383	436	469	2183	2173	2176	453	2177
384	440	474	2189	2166	2171	456	2177
385	444	477	2185	2185	2173	461	2181
386	448	482	2187	2156	2183	465	2174
387	453	486	2180	2177	2174	469	2179
388	457	490	2189	2155	2196	473	2180
389	461	495	2182	2170	2182	478	2176
390	465	499	2190	2171	2191	482	2182
391	469	503	2180	2176	2220	486	2195
392	473	507	2189	2166	2206	490	2180
393	477	511	2186	2198	2180	494	2188
394	481	516	2185	2164	2183	499	2177
395	486	520	2217	2200	2214	502	2209
396	490	524	2222	2179	2231	506	2207
397	494	528	2199	2204	2214	511	2206
398	497	532	2222	2200	2236	515	2217
399	502	536	2210	2207	2210	519	2209
400	506	540	2214	2225	2214	523	2221
401	510	544	2226	2178	2250	527	2218
402	514	549	2230	2203	2218	532	2220
403	518	553	2234	2227	2222	536	2226
404	522	557	2231	2247	2210	540	2234
405	526	562	2234	2247	2208	543	2238
406	530	565	2222	2226	2218	548	2224
407	534	570	2269	2202	2294	552	2268
408	538	571	2229	2204	2238	555	2224
409	543	577	2225	2256	2207	561	2233
410	547	578	2237	2214	2231	563	2229
411	551	584	2244	2264	2214	568	2241
412	555	592	2223	2244	2221	573	2233
413	559	593	2234	2192	2246	577	2224
414	563	600	2230	2240	2208	581	2231
415	566	604	2240	2236	2223	586	2232
416	573	608	2240	2227	2235	590	2233
417	575	611	2242	2213	2230	593	2227
418	574	611	2232	2250	2223	596	2235
419	582	617	2238	2218	2238	603	2231
420	586	621	2244	2216	2230	607	2230