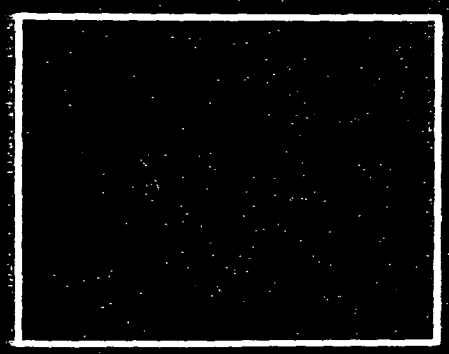
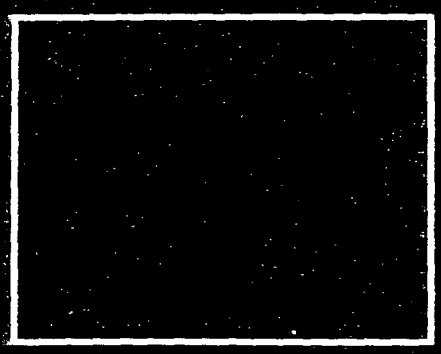
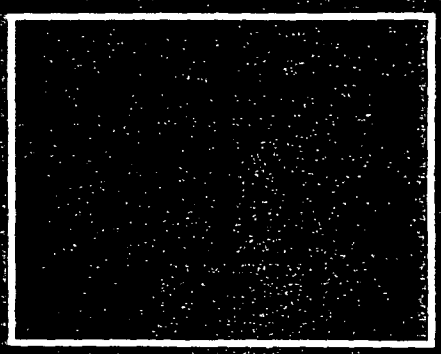
PLAINTIFF'S
EXHIBIT
WRG-96
Blumberg No. 5113

0450390

MONOKOTE







Floors
Beams
Columns

Estimating Guide for Zonolite® MONOKOTE® Fireproofing

0450902

Introduction

This manual contains reference data required for estimating in-place MONOKOTE® cementitious fireproofing. In providing the market with the high quality fire protection offered by MONOKOTE, we depend on your ability to properly bid MONOKOTE — to bid competitively, and to make a profit for your company. This manual provides you with a comprehensive reference to assist you in this area.

Included are MONOKOTE use factors for floors, beams and columns, based upon the latest available information — including Underwriters fire resistive designs and current catalogs from metal deck manufacturers.

It is important to note that data presented in this manual will not replace careful preparation and review of your estimate.

This MK 208-A Estimating Guide supersedes all previous estimating guides.

The following is a partial check list for use in preparing your estimate:

- ☐ have a complete copy of the job specifications plus addenda.
- ☐ have a complete set of plans for review — these should include architectural, structural-mechanical and electrical drawings.
- ☐ require clarification from the architect/engineer/ specifier on interpretations of definitions — codes and building regulations.
- ☐ make sure that your application of MONOKOTE can be accomplished within the specified time using normal installation techniques and equipment.
- ☐ consult the latest MONOKOTE literature.
- ☐ make sure that you contact your local ZONOLITE field representative who is always available to assist you.

For our part, we will continue to provide to you and the fireproofing industry:

1. A consistent, high quality product
2. A continued emphasis on the need for quality fireproofing
3. Continued support data and technical assistance

Deck Type and Typical Manufacturers Designation

TYPE I
H. H. Robertson QL-3
INRYCO Type B
Roll Form Lock-Form Type BP1½
Airtherm Type B2C and B3C
Bowman 1½" V-Grip
Wheeling Super-Bond BC/BWC
Epic EC150

TYPE II
H. H. Robertson QL99-2"
Roll Form Lock-Form Type BP2
INRYCO Type 2"V
Bowman 2" V-Grip
Granco Comdek 2
Mac-Fab Mak-Lok 2
Epic EC266

TYPE III
H. H. Robertson QL-21
INRYCO Type N
Roll Form Lock-Form Type BP3
Bowman 3" V-Grip
Airtherm Type NC
Epic EC300

TYPE IV
H. H. Robertson QL99-3"
INRYCO Type 3"W, Type 3"V
Granco Comdek 3
Epic EC266
Roll Form Lock-Form BP2C3

TYPE V
H. H. Robertson QL-UKX, QL-NKX, QL-TKX, QL-WKX, QL-AKX
INRYCO Type NF, BF
Roll Form Lock-Form Type RFC1½, RFC2 RFC3, RF2C3
Airtherm B2FC, Type NFC
Bowman 1½, 2 and 3" Wireway
Epic ECP150, ECP266, ECP366, ECP300

The above information on typical deck designations is to be used with the deck estimating guide on page 3. This **information is based on our best knowledge and we believe it to be true and accurate.** No responsibility for use of this data is assumed by the Construction Products Division, W. R. Grace & Co.

The list of various deck profiles and manufacturers is offered for information purposes only and is not intended to replace careful review and preparation by the estimator.

Beam Estimating Guide

Board Feet of Monokote per Lineal Foot of Beam

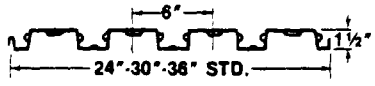
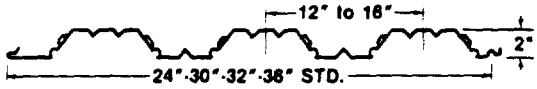
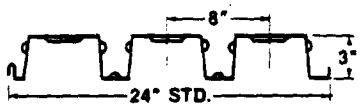
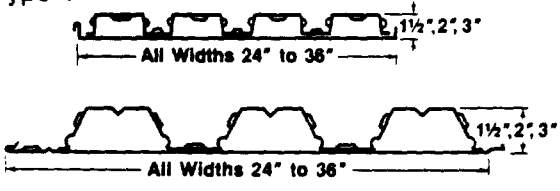
Beams and Girders: W Shapes

04502904

	Monokote Thickness in Inches									
	7/16	1/2	3/4	7/8	1	1-1/8	1-1/4	1-1/2	1-5/8	2
W 36X300	4.46	5.10	7.69	8.99	10.29	11.60	12.92	15.56	16.90	20.92
280	4.44	5.08	7.66	8.95	10.25	11.56	12.87	15.50	16.83	20.84
260	4.42	5.06	7.62	8.91	10.20	11.50	12.81	15.43	16.75	20.74
245	4.41	5.04	7.60	8.88	10.17	11.47	12.77	15.38	16.70	20.68
230	4.39	5.03	7.57	8.85	10.14	11.43	12.72	15.33	16.64	20.61
194	3.96	4.53	6.83	7.99	9.15	10.31	11.49	13.85	15.03	18.63
182	3.95	4.52	6.81	7.96	9.12	10.28	11.45	13.80	14.98	18.57
170	3.93	4.50	6.78	7.93	9.09	10.25	11.41	13.76	14.94	18.51
160	3.92	4.49	6.76	7.91	9.06	10.21	11.37	13.71	14.89	18.45
150	3.91	4.47	6.74	7.88	9.03	10.18	11.34	13.67	14.84	18.39
135	3.89	4.45	6.70	7.84	8.98	10.12	11.27	13.59	14.76	18.29
W 33X240	4.15	4.75	7.15	8.36	9.58	10.80	12.02	14.49	15.73	19.49
220	4.13	4.72	7.12	8.32	9.53	10.75	11.97	14.42	15.66	19.40
200	4.11	4.70	7.08	8.28	9.48	10.69	11.91	13.35	15.58	19.30
152	3.69	4.23	6.37	7.45	8.54	9.63	10.72	12.93	14.04	17.40
141	3.68	4.21	6.34	7.42	8.50	9.59	10.68	12.88	13.98	17.34
130	3.66	4.19	6.32	7.39	8.46	9.55	10.63	12.82	13.92	17.26
118	3.64	4.17	6.29	7.35	8.42	9.50	10.58	12.76	13.86	17.18
W 30X210	3.84	4.40	6.63	7.75	8.88	10.01	11.15	13.44	14.59	18.09
190	3.82	4.37	6.59	7.71	8.83	9.96	11.09	13.37	14.52	17.99
172	3.80	4.35	6.56	7.67	8.78	9.91	11.03	13.30	14.44	17.90
132	3.35	3.83	5.78	6.76	7.75	8.74	9.74	11.75	12.77	15.84
124	3.34	3.82	5.76	6.74	7.73	8.72	9.71	11.71	12.72	15.79
116	3.33	3.81	5.74	6.72	7.70	8.68	9.67	11.67	12.68	15.73
108	3.31	3.79	5.72	6.69	7.67	8.65	9.64	11.62	12.63	15.67
99	3.30	3.78	5.69	6.66	7.63	8.61	9.59	11.58	12.57	15.60
W 27X177	3.51	4.02	6.06	7.09	8.12	9.16	10.20	12.31	13.36	16.57
160	3.49	4.00	6.03	7.05	8.08	9.11	10.15	12.24	13.29	16.49
145	3.48	3.98	6.00	7.01	8.04	9.07	10.10	12.18	13.23	16.41
114	3.08	3.53	5.32	6.23	7.14	8.05	8.97	10.83	11.77	14.61
102	3.06	3.51	5.29	6.19	7.10	8.01	8.92	10.77	11.70	14.53
94	3.05	3.49	5.27	6.17	7.07	7.97	8.89	10.73	11.65	14.47
84	3.03	3.47	5.24	6.13	7.03	7.93	8.84	10.67	11.59	14.39
W 24X160	3.33	3.81	5.74	6.72	7.70	8.69	9.68	11.68	12.68	15.73
145	3.31	3.79	5.71	6.68	7.66	8.64	9.62	11.61	12.61	15.65
130	3.29	3.77	5.68	6.64	7.61	8.59	9.57	11.55	12.54	15.56
120	3.09	3.53	5.33	6.24	7.15	8.06	8.99	10.85	11.78	14.63
110	3.07	3.52	5.31	6.21	7.12	8.03	8.95	10.80	11.74	14.57
100	3.06	3.50	5.29	6.18	7.09	8.00	8.91	10.76	11.69	14.51
94	2.76	3.16	4.76	5.58	6.39	7.22	8.04	9.72	10.56	13.12
84	2.74	3.14	4.74	5.54	6.36	7.18	8.00	9.66	10.50	13.05
76	2.73	3.12	4.71	5.52	6.32	7.14	7.96	9.61	10.45	12.98
68	2.71	3.10	4.69	5.48	6.29	7.10	7.91	9.56	10.39	12.91
61	2.50	2.86	4.32	5.06	5.81	6.56	7.31	8.83	9.60	11.95
55	2.49	2.85	4.30	5.04	5.78	6.52	7.27	8.79	9.55	11.88
W 21X142	2.98	3.42	5.16	6.03	6.92	7.80	8.70	10.50	11.41	14.17
127	2.97	3.40	5.12	6.00	6.87	7.76	8.64	10.44	11.34	14.08
112	2.95	3.37	5.09	5.96	6.83	7.71	8.59	10.37	11.27	13.99
96	2.52	2.89	4.36	5.10	5.85	6.61	7.37	8.91	9.68	12.04
82	2.50	2.86	4.32	5.06	5.80	6.55	7.30	8.83	9.60	11.93
73	2.45	2.81	4.25	4.97	5.70	6.44	7.18	8.68	9.44	11.74
68	2.45	2.80	4.23	4.96	5.68	6.42	7.16	8.65	9.41	11.70

Steel Floor Estimating Guide

04502903

Depth	Deck Profile & Dimensions	Bd. Ft. of Monokote / Sq. Ft. of Deck Area Monokote Thickness (inches)				
		3/8"	1/2"	5/8"	3/4"	1"
1-1/2"	Type I 	.55	.73	.91	1.09	1.46
2"	Type II 	.46	.61	.76	.91	1.21
3"	Type III 	.65	.86	1.07	1.29	1.72
3"	Type IV 	.50	.67	.83	1.00	1.33
1-1/2, 2 & 3"	Type V 	.38	.50	.63	.75	1.00

To obtain the number of board feet of MONOKOTE at the indicated thickness, multiply the factors by the square foot of floor area for each of the above sections. These factors can be interchanged with any deck profile having the same ratio of steel surface area to square foot of deck area. The values given for 1" thickness reflect that ratio.

Beams

Board Feet of Monokote per Lineal Foot of Beam

Beams and Girders: W Shapes

04502906

Monokote Thickness in Inches

	7/16	1/2	3/4	7/8	1	1-1/8	1-1/4	1-1/2	1-5/8	2
W 14X 78	2.34	2.68	4.05	4.74	5.44	6.14	6.85	8.28	9.01	11.21
74	2.14	2.45	3.70	4.33	4.97	5.62	6.27	7.59	8.25	10.28
68	2.12	2.43	3.68	4.31	4.95	5.59	6.24	7.55	8.21	10.23
61	2.11	2.42	3.66	4.29	4.92	5.56	6.20	7.51	8.17	10.18
53	1.90	2.18	3.30	3.87	4.44	5.02	5.61	6.79	7.39	9.22
48	1.89	2.17	3.28	3.85	4.42	5.00	5.58	6.75	7.35	9.17
43	1.88	2.16	3.27	3.83	4.40	4.97	5.55	6.72	7.31	9.12
38	1.78	2.04	3.09	3.62	4.16	4.71	5.25	6.37	6.93	8.66
34	1.77	2.03	3.07	3.60	4.14	4.68	5.23	6.33	6.90	8.61
30	1.76	2.02	3.05	3.58	4.11	4.65	5.20	6.30	6.86	8.56
26	1.58	1.81	2.74	3.22	3.70	4.18	4.67	5.67	6.17	7.72
22	1.56	1.79	2.72	3.19	3.67	4.15	4.63	5.62	6.12	7.66
W 12X190	2.39	2.74	4.13	4.84	5.55	6.27	6.99	8.46	9.19	11.44
161	2.35	2.69	4.06	4.76	5.46	6.16	6.87	8.31	9.04	11.25
133	2.30	2.64	3.99	4.67	5.36	6.06	6.75	8.17	8.88	11.06
120	2.28	2.62	3.95	4.63	5.32	6.00	6.70	8.10	8.81	10.96
106	2.26	2.59	3.92	4.59	5.27	5.95	6.64	8.03	8.73	10.87
99	2.25	2.58	3.90	4.57	5.24	5.92	6.61	7.99	8.69	10.82
92	2.24	2.57	3.88	4.55	5.22	5.89	6.57	7.95	8.65	10.77
85	2.23	2.56	3.86	4.53	5.19	5.87	6.54	7.92	8.61	10.72
79	2.22	2.54	3.85	4.51	5.17	5.84	6.52	7.88	8.57	10.68
72	2.21	2.53	3.83	4.49	5.15	5.81	6.49	7.85	8.53	10.63
65	2.20	2.52	3.81	4.46	5.12	5.79	6.45	7.81	8.49	10.58
58	1.99	2.28	3.45	4.04	4.64	5.25	5.85	7.09	7.71	9.62
53	1.98	2.27	3.43	4.02	4.62	5.22	5.83	7.05	7.68	9.57
50	1.78	2.04	3.09	3.62	4.16	4.70	5.25	6.36	6.92	8.64
45	1.77	2.02	3.07	3.60	4.13	4.67	5.22	6.32	6.88	8.60
40	1.76	2.01	3.05	3.58	4.11	4.64	5.19	6.29	6.84	8.55
36	1.62	1.86	2.82	3.30	3.80	4.30	4.80	5.82	6.34	7.93
31	1.61	1.84	2.80	3.28	3.77	4.26	4.76	5.78	6.29	7.87
27	1.60	1.83	2.78	3.26	3.74	4.24	4.73	5.74	6.25	7.82
22	1.35	1.55	2.36	2.77	3.18	3.60	4.03	4.90	5.34	6.70
19	1.34	1.54	2.34	2.74	3.16	3.57	4.00	4.86	5.30	6.64
16.5	1.33	1.52	2.32	2.72	3.13	3.54	3.96	4.82	5.25	6.59
14	1.32	1.51	2.30	2.70	3.11	3.52	3.94	4.79	5.22	6.55
W 10X112	1.95	2.23	3.37	3.96	4.54	5.13	5.73	6.94	7.55	9.42
100	1.92	2.20	3.34	3.91	4.49	5.08	5.67	6.86	7.47	9.32
89	1.90	2.18	3.30	3.87	4.45	5.03	5.61	6.79	7.39	9.23
77	1.88	2.16	3.27	3.83	4.40	4.97	5.55	6.72	7.31	9.13
72	1.87	2.15	3.25	3.81	4.37	4.94	5.52	6.69	7.28	9.08
66	1.86	2.13	3.23	3.79	4.35	4.92	5.49	6.65	7.24	9.03
60	1.85	2.12	3.21	3.77	4.32	4.89	5.46	6.61	7.20	8.98
54	1.84	2.11	3.19	3.74	4.30	4.86	5.43	6.57	7.16	8.93
49	1.83	2.10	3.18	3.72	4.28	4.83	5.40	6.54	7.12	8.89
45	1.62	1.86	2.82	3.31	3.80	4.30	4.80	5.83	6.35	7.93
39	1.61	1.84	2.79	3.28	3.77	4.26	4.76	5.78	6.29	7.87
33	1.59	1.83	2.77	3.25	3.73	4.22	4.72	5.73	6.24	7.80
29	1.39	1.59	2.42	2.84	3.27	3.70	4.14	5.03	5.49	6.88
25	1.38	1.58	2.40	2.82	3.25	3.67	4.11	4.99	5.44	6.82
21	1.37	1.57	2.38	2.79	3.21	3.64	4.07	4.95	5.39	6.76
19	1.20	1.38	2.10	2.47	2.84	3.22	3.60	4.38	4.78	6.01
17	1.19	1.37	2.08	2.45	2.82	3.19	3.57	4.35	4.75	5.97
15	1.18	1.36	2.07	2.43	2.80	3.17	3.55	4.32	4.71	5.92
11.5	1.17	1.34	2.05	2.40	2.77	3.14	3.51	4.28	4.67	5.87
W 8X 67	1.55	1.78	2.70	3.17	3.64	4.12	4.61	5.59	6.09	7.62
58	1.53	1.76	2.67	3.13	3.60	4.07	4.55	5.52	6.01	7.52
48	1.51	1.73	2.63	3.08	3.55	4.01	4.48	5.44	5.93	7.42
40	1.49	1.71	2.59	3.04	3.50	3.96	4.43	5.38	5.86	7.33
35	1.48	1.70	2.57	3.02	3.47	3.93	4.39	5.34	5.81	7.28
31	1.47	1.68	2.56	3.00	3.45	3.91	4.37	5.30	5.78	7.24
28	1.31	1.51	2.29	2.69	3.10	3.51	3.92	4.77	5.20	6.53
24	1.30	1.49	2.27	2.67	3.07	3.48	3.89	4.73	5.16	6.48
20	1.18	1.36	2.07	2.43	2.80	3.17	3.55	4.32	4.72	5.93
17	1.17	1.35	2.05	2.41	2.77	3.14	3.52	4.29	4.68	5.88

Beams and Girders: W Shapes

04502905

	Monokote Thickness in Inches									
	7/16	1/2	3/4	7/8	1	1-1/8	1-1/4	1-1/2	1-5/8	2
W 21X 62	2.43	2.79	4.21	4.93	5.66	6.39	7.12	8.61	9.36	11.65
55	2.42	2.77	4.19	4.90	5.62	6.35	7.08	8.56	9.31	11.58
49	2.24	2.56	3.87	4.54	5.21	5.88	6.56	7.93	8.63	10.74
44	2.22	2.55	3.85	4.51	5.18	5.85	6.52	7.89	8.58	10.69
W 18X114	2.63	3.01	4.55	5.32	6.11	6.89	7.68	9.28	10.09	12.54
105	2.62	3.00	4.53	5.30	6.08	6.86	7.65	9.24	10.04	12.48
96	2.60	2.98	4.50	5.27	6.05	6.82	7.61	9.19	9.99	12.42
86	2.30	2.63	3.98	4.66	5.34	6.03	6.73	8.14	8.85	11.02
77	2.28	2.61	3.95	4.63	5.31	6.00	6.69	8.09	8.80	10.96
70	2.27	2.60	3.93	4.60	5.28	5.96	6.65	8.05	8.75	10.90
64	2.26	2.59	3.91	4.58	5.26	5.94	6.62	8.01	8.71	10.85
60	2.16	2.47	3.74	4.38	5.03	5.68	6.34	7.67	8.34	10.39
55	2.15	2.46	3.72	4.36	5.00	5.65	6.31	7.63	8.30	10.34
50	2.14	2.45	3.71	4.34	4.98	5.63	6.28	7.60	8.27	10.30
45	2.13	2.44	3.69	4.32	4.96	5.60	6.25	7.56	8.22	10.25
40	1.97	2.26	3.42	4.01	4.60	5.20	5.80	7.03	7.65	9.54
35	1.96	2.24	3.40	3.98	4.57	5.16	5.76	6.98	7.59	9.47
W 16X 96	2.44	2.80	4.23	4.95	5.68	6.41	7.15	8.65	9.40	11.69
88	2.43	2.78	4.21	4.93	5.65	6.38	7.12	8.60	9.35	11.64
78	2.12	2.43	3.68	4.31	4.95	5.59	6.23	7.54	8.20	10.22
71	2.11	2.42	3.65	4.28	4.91	5.55	6.20	7.50	8.16	10.16
64	2.10	2.40	3.63	4.26	4.88	5.52	6.16	7.45	8.11	10.10
58	2.08	2.39	3.61	4.23	4.86	5.49	6.12	7.41	8.06	10.05
50	1.96	2.25	3.40	3.99	4.58	5.18	5.78	6.99	7.61	9.49
45	1.95	2.24	3.39	3.97	4.56	5.15	5.75	6.96	7.57	9.44
40	1.94	2.22	3.37	3.95	4.53	5.12	5.72	6.92	7.53	9.40
36	1.93	2.21	3.35	3.92	4.51	5.09	5.69	6.88	7.49	9.35
31	1.77	2.03	3.08	3.61	4.14	4.68	5.23	6.34	6.90	8.62
26	1.76	2.01	3.05	3.58	4.11	4.65	5.19	6.29	6.85	8.55
W 14X730	3.40	3.89	5.87	6.87	7.87	8.87	9.89	11.93	12.95	16.07
665	3.34	3.82	5.76	6.74	7.72	8.71	9.70	11.70	12.71	15.77
605	3.27	3.75	5.65	6.61	7.58	8.55	9.52	11.49	12.48	15.49
550	3.22	3.68	5.55	6.50	7.45	8.40	9.36	11.30	12.27	15.23
500	3.16	3.62	5.46	6.39	7.33	8.26	9.21	11.11	12.07	14.98
455	3.12	3.57	5.38	6.29	7.21	8.14	9.07	10.95	11.89	14.76
426	3.08	3.53	5.33	6.23	7.14	8.06	8.98	10.84	11.78	14.62
398	3.05	3.49	5.27	6.17	7.07	7.98	8.89	10.73	11.66	14.47
370	3.02	3.46	5.22	6.11	7.00	7.90	8.80	10.62	11.54	14.33
342	2.99	3.42	5.16	6.04	6.93	7.82	8.71	10.52	11.43	14.19
320	2.95	3.37	5.09	5.96	6.83	7.71	8.59	10.37	11.27	13.99
314	2.96	3.39	5.11	5.98	6.85	7.73	8.62	10.41	11.31	14.04
287	2.93	3.35	5.06	5.92	6.78	7.65	8.53	10.30	11.19	13.90
264	2.90	3.32	5.01	5.86	6.72	7.59	8.45	10.21	11.09	13.78
246	2.88	3.30	4.97	5.82	6.67	7.53	8.39	10.14	11.01	13.68
237	2.87	3.28	4.96	5.80	6.65	7.50	8.36	10.10	10.97	13.63
228	2.86	3.27	4.94	5.78	6.63	7.48	8.33	10.06	10.94	13.58
219	2.85	3.26	4.92	5.76	6.60	7.45	8.30	10.03	10.89	13.53
211	2.84	3.25	4.90	5.74	6.58	7.42	8.28	9.99	10.86	13.49
202	2.83	3.24	4.88	5.72	6.55	7.40	8.24	9.96	10.82	13.44
193	2.82	3.22	4.87	5.69	6.53	7.37	8.21	9.92	10.78	13.39
184	2.80	3.21	4.85	5.67	6.51	7.34	8.18	9.88	10.74	13.34
176	2.79	3.20	4.83	5.65	6.48	7.32	8.15	9.85	10.70	13.30
167	2.78	3.19	4.81	5.63	6.46	7.29	8.12	9.81	10.66	13.25
158	2.77	3.17	4.79	5.61	6.43	7.26	8.09	9.77	10.62	13.20
150	2.76	3.16	4.78	5.59	6.41	7.23	8.06	9.74	10.58	13.15
142	2.75	3.15	4.76	5.57	6.39	7.21	8.04	9.70	10.55	13.11
136	2.67	3.06	4.62	5.41	6.20	7.00	7.80	9.43	10.24	12.73
127	2.66	3.05	4.60	5.38	6.17	6.97	7.77	9.39	10.20	12.68
119	2.65	3.03	4.58	5.36	6.15	6.94	7.74	9.35	10.16	12.64
111	2.64	3.02	4.56	5.34	6.13	6.92	7.71	9.32	10.13	12.59
103	2.63	3.01	4.55	5.32	6.10	6.89	7.68	9.28	10.09	12.54
95	2.62	3.00	4.53	5.30	6.08	6.86	7.65	9.24	10.05	12.49
87	2.61	2.99	4.51	5.28	6.06	6.84	7.62	9.21	10.01	12.44
84	2.35	2.69	4.06	4.76	5.46	6.17	6.88	8.32	9.04	11.25

04502907

Beams and Girders: W Shapes

	Monokote Thickness in Inches									
	7/16	1/2	3/4	7/8	1	1-1/8	1-1/4	1-1/2	1-5/8	2
W 8X 15	1.05	1.20	1.83	2.15	2.48	2.82	3.16	3.85	4.20	5.30
13	1.04	1.19	1.81	2.14	2.46	2.79	3.13	3.82	4.17	5.26
10	1.03	1.18	1.80	2.12	2.44	2.77	3.10	3.79	4.13	5.21
W 6X 25	1.14	1.31	1.99	2.34	2.69	3.06	3.42	4.17	4.55	5.72
20	1.12	1.29	1.96	2.31	2.66	3.02	3.38	4.12	4.49	5.66
15.5	1.11	1.27	1.94	2.28	2.63	2.98	3.33	4.06	4.44	5.59
16	0.91	1.04	1.60	1.88	2.17	2.47	2.77	3.38	3.70	4.68
12	0.89	1.02	1.56	1.84	2.13	2.42	2.71	3.32	3.63	4.59
8.5	0.88	1.01	1.54	1.81	2.10	2.38	2.67	3.27	3.57	4.52
W 5X 18.5	0.94	1.07	1.64	1.93	2.23	2.53	2.84	3.47	3.80	4.80
16	0.93	1.06	1.63	1.92	2.21	2.51	2.81	3.44	3.76	4.75
W 4X 13	0.76	0.87	1.34	1.58	1.83	2.08	2.34	2.87	3.14	3.99

Beams and Girders: M Shapes

	Monokote Thickness in Inches									
	7/16	1/2	3/4	7/8	1	1-1/8	1-1/4	1-1/2	1-5/8	2
M 14X 17.2	1.47	1.69	2.57	3.01	3.46	3.92	4.38	5.32	5.80	7.26
M 12X 11.8	1.23	1.41	2.15	2.52	2.90	3.29	3.68	4.48	4.89	6.14
M 10X 29.1	1.37	1.57	2.39	2.80	3.23	3.65	4.09	4.96	5.41	6.79
22.9	1.36	1.56	2.38	2.79	3.21	3.64	4.07	4.94	5.39	6.76
9	1.04	1.20	1.83	2.15	2.48	2.81	3.15	3.84	4.20	5.29
M 8X 37.7	1.47	1.69	2.56	3.01	3.46	3.91	4.37	5.31	5.79	7 25
34.3	1.46	1.68	2.55	2.99	3.44	3.89	4.35	5.28	5.76	7 21
32.6	1.46	1.67	2.54	2.99	3.43	3.89	4.34	5.27	5.75	7 20
22.5	1.18	1.35	2.06	2.42	2.79	3.16	3.53	4.30	4.70	5 91
18.5	1.17	1.35	2.05	2.41	2.77	3.14	3.52	4.29	4 68	5 88
6.5	0.85	0.98	1.50	1.77	2.05	2.33	2.61	3.20	3.50	4 43
M 7X 5.5	0.76	0.87	1.34	1.58	1.83	2.08	2.34	2.87	3.15	4 00
M 6X 33.75	1.12	1.29	1.96	2.31	2.66	3.01	3.37	4.11	4.48	5 64
22.5	1.11	1.27	1.93	2.27	2.62	2.97	3.33	4.05	4.43	5 57
20	1.10	1.26	1.93	2.27	2.61	2.96	3.31	4.04	4.41	5 55
4.4	0.66	0.76	1.18	1.39	1.61	1.83	2.06	2.54	2.78	3 55
M 5X 18.9	0.92	1.06	1.62	1.91	2.20	2.50	2.80	3.42	3.74	4 73
M 4X 16.3	0.75	0.86	1.32	1.56	1.80	2.05	2.30	2.82	3.09	3 93
13.8	0.74	0.85	1.30	1.54	1.78	2.03	2.28	2.80	3.06	3 90
13	0.74	0.85	1.30	1.54	1.78	2.02	2.27	2.79	3.06	3 89

Beams and Girders: HP Shapes

HP14X117	2.64	3.02	4.56	5.34	6.13	6.91	7.71	9.31	10.12	12 58
102	2.62	3.00	4.53	5.30	6.08	6.87	7.66	9.25	10.06	12 50
89	2.60	2.98	4.50	5.27	6.05	6.83	7.61	9.20	10.00	12 43
73	2.58	2.96	4.47	5.23	6.00	6.78	7.55	9.13	9.92	12 34
HP12X 74	2.21	2.53	3.82	4.48	5.14	5.81	6.48	7.83	8.52	10 61
53	2.18	2.49	3.77	4.42	5.07	5.73	6.39	7.73	8.41	10 47
HP10X 57	1.84	2.11	3.19	3.74	4.30	4.86	5.42	6.57	7.15	8 93
42	1.81	2.08	3.15	3.69	4.24	4.79	5.35	6.48	7.05	8.81
HP 8X 36	1.48	1.69	2.57	3.02	3.47	3.93	4.39	5.33	5.81	7.27

Beams and Girders: S Shapes

04502908

Monokote Thickness in Inches

		7/16	1/2	3/4	7/8	1	1-1/8	1-1/4	1-1/2	1-5/8	2
S 24X	120.0	2.60	2.98	4.50	5.27	6.05	6.82	7.61	9.19	9.99	12.42
	105.9	2.60	2.97	4.49	5.26	6.03	6.81	7.59	9.17	9.97	12.40
	100.0	2.52	2.89	4.36	5.10	5.85	6.61	7.37	8.91	9.68	12.04
	90.0	2.52	2.88	4.35	5.09	5.84	6.60	7.36	8.89	9.67	12.02
	79.9	2.51	2.88	4.34	5.09	5.83	6.59	7.34	8.88	9.65	12.00
S 20X	95.0	2.22	2.54	3.84	4.50	5.17	5.84	6.51	7.88	8.57	10.67
	85.0	2.21	2.54	3.83	4.49	5.15	5.82	6.50	7.86	8.55	10.64
	75.0	2.14	2.45	3.71	4.35	4.99	5.64	6.29	7.61	8.28	10.32
	66.4	2.14	2.45	3.70	4.34	4.98	5.62	6.28	7.59	8.26	10.29
S 18X	70.0	1.98	2.26	3.43	4.02	4.61	5.21	5.82	7.04	7.66	9.56
	54.7	1.97	2.25	3.41	4.00	4.59	5.19	5.79	7.01	7.63	9.51
S 15X	50.0	1.70	1.95	2.96	3.47	3.99	4.51	5.03	6.10	6.64	8.30
	42.9	1.70	1.95	2.95	3.46	3.97	4.49	5.02	6.09	6.63	8.28
S 12X	50.0	1.46	1.67	2.53	2.98	3.42	3.87	4.33	5.26	5.73	7.18
	40.8	1.45	1.66	2.52	2.96	3.40	3.85	4.31	5.23	5.70	7.14
	35.0	1.43	1.64	2.49	2.93	3.36	3.81	4.26	5.17	5.64	7.06
	31.8	1.43	1.64	2.49	2.92	3.36	3.80	4.25	5.16	5.63	7.05
S 10X	35.0	1.26	1.44	2.20	2.58	2.97	3.37	3.77	4.58	5.00	6.27
	25.4	1.25	1.43	2.18	2.56	2.95	3.34	3.74	4.55	4.96	6.23
S 8X	23.0	1.04	1.19	1.82	2.14	2.47	2.80	3.14	3.83	4.18	5.27
	18.4	1.03	1.19	1.81	2.13	2.46	2.79	3.12	3.81	4.16	5.24
7X	20.0	0.93	1.07	1.64	1.93	2.22	2.52	2.83	3.46	3.78	4.78
	15.3	0.92	1.06	1.62	1.91	2.21	2.51	2.81	3.44	3.76	4.75
S 6X	17.25	0.83	0.95	1.45	1.71	1.98	2.25	2.53	3.10	3.39	4.29
	12.5	0.82	0.94	1.44	1.70	1.96	2.23	2.50	3.07	3.36	4.26
S 5X	14.75	0.72	0.83	1.27	1.50	1.74	1.98	2.23	2.73	2.99	3.81
	10.0	0.71	0.82	1.26	1.48	1.72	1.95	2.20	2.70	2.96	3.76
S 4X	9.5	0.61	0.70	1.08	1.28	1.48	1.69	1.90	2.34	2.57	3.29
	7.7	0.60	0.69	1.07	1.27	1.47	1.67	1.89	2.33	2.55	3.27
S 3X	7.5	0.50	0.58	0.90	1.06	1.24	1.41	1.60	1.98	2.18	2.80
	5.7	0.49	0.57	0.88	1.05	1.22	1.40	1.58	1.96	2.15	2.77

Columns

Board Feet of Monokote per Lineal Foot of Column

Columns: W Shapes

04502910

Monokote Thickness in Inches

	5/8	13/16	7/8	1	1-1/4	1-3/4	1-7/8	2	2-1/2	2-3/4
W 21X 62	3.99	5.24	5.66	6.51	8.24	11.83	12.76	13.69	17.53	19.51
55	3.97	5.21	5.63	6.48	8.20	11.77	12.69	13.62	17.44	19.41
49	3.62	4.76	5.14	5.92	7.50	10.79	11.64	12.50	16.04	17.87
44	3.60	4.73	5.11	5.89	7.46	10.74	11.58	12.44	15.96	17.79
W 18X114	4.46	5.85	6.31	7.26	9.18	13.14	14.16	15.18	19.40	21.57
105	4.44	5.82	6.29	7.22	9.14	13.08	14.09	15.12	19.31	21.47
96	4.42	5.79	6.26	7.19	9.09	13.02	14.03	15.05	19.23	21.38
85	3.83	5.02	5.43	6.25	7.91	11.37	12.26	13.16	16.86	18.78
77	3.80	4.99	5.40	6.21	7.87	11.30	12.19	13.09	16.77	18.68
70	3.78	4.97	5.37	6.18	7.83	11.25	12.13	13.02	16.69	18.59
64	3.77	4.95	5.34	6.15	7.79	11.20	12.08	12.97	16.62	18.52
60	3.56	4.68	5.06	5.83	7.39	10.63	11.47	12.32	15.81	17.62
55	3.55	4.66	5.04	5.80	7.35	10.59	11.42	12.26	15.75	17.55
50	3.53	4.64	5.02	5.77	7.32	10.54	11.37	12.21	15.68	17.48
45	3.51	4.62	4.99	5.75	7.29	10.49	11.32	12.16	15.62	17.41
40	3.22	4.23	4.57	5.27	6.69	9.66	10.43	11.21	14.42	16.10
35	3.19	4.20	4.54	5.24	6.65	9.60	10.36	11.14	14.34	16.00
W 16X 96	4.18	5.48	5.92	6.81	8.61	12.35	13.31	14.28	18.27	20.33
88	4.16	5.46	5.89	6.78	8.57	12.30	13.25	14.22	18.19	20.24
78	3.56	4.68	5.06	5.83	7.39	10.64	11.47	12.32	15.82	17.63
71	3.54	4.66	5.03	5.79	7.35	10.58	11.41	12.25	15.73	17.54
64	3.52	4.63	5.00	5.76	7.30	10.52	11.35	12.19	15.65	17.44
58	3.50	4.60	4.98	5.73	7.27	10.47	11.29	12.13	15.58	17.36
50	3.26	4.28	4.63	5.34	6.77	9.78	10.55	11.34	14.59	16.28
45	3.24	4.26	4.61	5.31	6.74	9.73	10.50	11.28	14.52	16.20
40	3.22	4.24	4.59	5.28	6.71	9.68	10.45	11.23	14.46	16.13
36	3.21	4.22	4.56	5.26	6.67	9.64	10.40	11.18	14.39	16.06
31	2.90	3.82	4.14	4.77	6.07	8.78	9.49	10.20	13.17	14.72
26	2.88	3.80	4.11	4.73	6.02	8.72	9.42	10.13	13.08	14.62
W 14X730	5.87	7.69	8.30	9.52	12.01	17.11	18.41	19.72	25.06	27.80
665	5.77	7.55	8.15	9.36	11.80	16.81	18.09	19.38	24.64	27.33
605	5.67	7.42	8.01	9.20	11.60	16.53	17.79	19.06	24.24	26.89
550	5.58	7.30	7.88	9.05	11.41	16.27	17.51	18.76	23.87	26.49
500	5.49	7.19	7.76	8.91	11.24	16.03	17.25	18.49	23.52	26.11
455	5.41	7.09	7.65	8.78	11.08	15.81	17.01	18.23	23.21	25.76
426	5.36	7.02	7.58	8.70	10.98	15.66	16.86	18.07	23.00	25.53
398	5.31	6.95	7.51	8.62	10.88	15.52	16.71	17.91	22.80	25.31
370	5.26	6.89	7.44	8.54	10.78	15.38	16.56	17.75	22.60	25.09
342	5.21	6.82	7.36	8.46	10.68	15.24	16.40	17.58	22.39	24.86
320	5.17	6.77	7.30	8.39	10.59	15.12	16.28	17.45	22.23	24.68
314	5.16	6.75	7.29	8.37	10.57	15.09	16.25	17.42	22.19	24.63
287	5.11	6.69	7.22	8.29	10.47	14.95	16.10	17.25	21.98	24.41
264	5.06	6.63	7.16	8.22	10.38	14.83	15.97	17.11	21.81	24.22
246	5.03	6.59	7.11	8.17	10.32	14.73	15.86	17.00	21.67	24.07
W 14X237	5.01	6.56	7.09	8.14	10.28	14.69	15.81	16.95	21.60	23.99
228	4.99	6.54	7.06	8.11	10.25	14.64	15.76	16.89	21.54	23.92
219	4.98	6.52	7.04	8.09	10.21	14.59	15.71	16.84	21.46	23.84
211	4.96	6.50	7.02	8.06	10.18	14.55	15.66	16.79	21.40	23.77
202	4.94	6.48	6.99	8.03	10.15	14.50	15.61	16.73	21.33	23.70
193	4.93	6.45	6.97	8.01	10.11	14.45	15.56	16.68	21.26	23.62
184	4.91	6.43	6.94	7.98	10.07	14.40	15.50	16.62	21.19	23.54
176	4.89	6.41	6.92	7.95	10.04	14.35	15.46	16.57	21.13	23.47
167	4.87	6.39	6.90	7.92	10.01	14.30	15.40	16.51	21.06	23.39
158	4.86	6.36	6.87	7.90	9.97	14.25	15.35	16.46	20.99	23.32
150	4.84	6.34	6.85	7.87	9.94	14.21	15.30	16.41	20.92	23.24
142	4.83	6.32	6.83	7.84	9.91	14.17	15.26	16.36	20.86	23.18
136	4.67	6.12	6.61	7.59	9.60	13.73	14.79	15.86	20.24	22.49
127	4.65	6.10	6.58	7.57	9.56	13.68	14.73	15.80	20.16	22.41
119	4.63	6.07	6.56	7.54	9.53	13.63	14.68	15.74	20.10	22.33
111	4.62	6.05	6.54	7.51	9.49	13.58	14.63	15.69	20.03	22.26
103	4.60	6.03	6.51	7.48	9.46	13.53	14.58	15.64	19.96	22.19
95	4.58	6.01	6.49	7.46	9.43	13.49	14.53	15.58	19.89	22.11
87	4.57	5.99	6.46	7.43	9.39	13.44	14.48	15.53	19.82	22.04

Column Estimating Guide

Board Feet of Monokote per Lineal Foot of Column

Columns: W Shapes

	Monokote Thickness in Inches									
	5/8	13/16	7/8	1	1-1/4	1-3/4	1-7/8	2	2-1/2	2-3/4
W 36X300	7.33	9.58	10.33	11.85	14.91	21.17	22.76	24.36	30.87	34.18
280	7.30	9.54	10.29	11.80	14.86	21.09	22.67	24.27	30.75	34.06
260	7.27	9.50	10.24	11.75	14.79	21.00	22.58	24.17	30.63	33.92
245	7.24	9.47	10.21	11.71	14.75	20.94	22.51	24.09	30.53	33.82
230	7.22	9.44	10.18	11.68	14.70	20.87	22.44	24.02	30.44	33.72
194	6.37	8.34	9.00	10.32	13.01	18.50	19.90	21.31	27.06	30.00
182	6.35	8.31	8.97	10.29	12.97	18.44	19.84	21.25	26.97	29.90
170	6.33	8.28	8.94	10.26	12.92	18.38	19.78	21.18	26.89	29.81
160	6.31	8.26	8.91	10.22	12.88	18.33	19.72	21.12	26.81	29.72
150	6.29	8.23	8.88	10.19	12.85	18.28	19.66	21.05	26.73	29.64
135	6.26	8.19	8.84	10.14	12.78	18.18	19.56	20.95	26.60	29.49
W 33X240	6.84	8.94	9.65	11.07	13.94	19.80	21.30	22.80	28.92	32.04
220	6.81	8.90	9.60	11.02	13.87	19.72	21.20	22.70	28.79	31.90
200	6.77	8.86	9.56	10.96	13.81	19.62	21.10	22.60	28.66	31.76
152	5.96	7.80	8.42	9.67	12.19	17.35	18.67	20.00	25.41	28.19
141	5.94	7.77	8.39	9.63	12.14	17.29	18.60	19.93	25.32	28.08
130	5.92	7.74	8.35	9.59	12.09	17.22	18.53	19.85	25.22	27.98
118	5.89	7.71	8.32	9.55	12.04	17.14	18.45	19.76	25.11	27.85
W 30X210	6.36	8.32	8.98	10.30	12.98	18.47	19.86	21.27	27 01	29.94
190	6.33	8.28	8.93	10.25	12.91	18.37	19.76	21.16	26.87	29.79
172	6.30	8.24	8.89	10.20	12.85	18.29	19.67	21.07	26.75	29.65
132	5.42	7.10	7.66	8.80	11.10	15.83	17.04	18.26	23.24	25.80
124	5.40	7.07	7.64	8.77	11.07	15.78	16.99	18.21	23.17	25.72
116	5.38	7.05	7.61	8.74	11.03	15.73	16.93	18.15	23.10	25.64
108	5.36	7.02	7.58	8.71	10.99	15.67	16.87	18.08	23.02	25.55
99	5.34	7.00	7.55	8.67	10.94	15.61	16.81	18.01	22.93	25.45
W 27X177	5.83	7.64	8.24	9.46	11.93	16.99	18.29	19.59	24.90	27.62
160	5.80	7.60	8.20	9.41	11.87	16.91	18.19	19.49	24.78	27.49
145	5.78	7.56	8.16	9.37	11.81	16.83	18.11	19.40	24.67	27.37
114	5.01	6.56	7.09	8.14	10.28	14.69	15.81	16.95	21.60	23.99
102	4.98	6.53	7.05	8.10	10.23	14.61	15.73	16.86	21.50	23.87
94	4.96	6.50	7.02	8.07	10.19	14.55	15.67	16.80	21.42	23.79
84	4.94	6.47	6.99	8.03	10.14	14.48	15.59	16.72	21.31	23.67
W 24X160	5.57	7.30	7.87	9.04	11.41	16.26	17.50	18.75	23.85	26 47
145	5.54	7.26	7.83	8.99	11.35	16.18	17.41	18.66	23.74	26.34
130	5.51	7.22	7.79	8.95	11.29	16.10	17.32	18.56	23.62	26.21
120	5.12	6.71	7.25	8.32	10.51	15.00	16.15	17.31	22.05	24.49
110	5.10	6.68	7.22	8.29	10.47	14.94	16.09	17.24	21.97	24.40
100	5.08	6.66	7.19	8.26	10.42	14.88	16.03	17.18	21.89	24 31
94	4.49	5.89	6.37	7.32	9.25	13.24	14.26	15.30	19.54	21.72
84	4.47	5.86	6.33	7.28	9.20	13.17	14.19	15.22	19.44	21.61
76	4.45	5.83	6.30	7.24	9.15	13.11	14.12	15.15	19.35	21.51
68	4.42	5.80	6.27	7.20	9.11	13.04	14.05	15.07	19.26	21.41
61	4.02	5.28	5.70	6.56	8.30	11.91	12.84	13.78	17.64	19.64
55	4.00	5.25	5.67	6.53	8.26	11.86	12.78	13.72	17.56	19.55
W 21X142	5.03	6.59	7.12	8.18	10.33	14.75	15.88	17.02	21.69	24.09
127	5.00	6.55	7.08	8.13	10.27	14.66	15.79	16.92	21.57	23.96
112	4.97	6.51	7.03	8.08	10.20	14.58	15.69	16.82	21.45	23.82
96	4.16	5.45	5.89	6.77	8.57	12.29	13.25	14.21	18.18	20.23
82	4.12	5.40	5.84	6.71	8.50	12.19	13.14	14.10	18.04	20.07
73	4.02	5.28	5.71	6.56	8.31	11.92	12.85	13.79	17.66	19.65
68	4.01	5.26	5.69	6.54	8.28	11.88	12.81	13.75	17.60	19.59

Columns

Board Feet of Monokote per Lineal Foot of Column

Columns: W Shapes

04502232

		Monokote Thickness in Inches									
		5/8	13/16	7/8	1	1-1/4	1-3/4	1-7/8	2	2-1/2	2-3/4
W	8X 20	2.05	2.72	2.94	3.40	4.36	6.40	6.93	7.48	9.76	10.97
	17	2.03	2.69	2.92	3.38	4.33	6.35	6.88	7.42	9.70	10.89
	15	1.79	2.37	2.57	2.98	3.83	5.66	6.14	6.63	8.71	9.81
	13	1.77	2.36	2.56	2.96	3.81	5.62	6.10	6.59	8.65	9.75
	10	1.76	2.33	2.53	2.94	3.77	5.57	6.05	6.54	8.59	9.68
W	6X 25	2.03	2.69	2.91	3.37	4.31	6.33	6.86	7.40	9.67	10.87
	20	2.00	2.65	2.88	3.33	4.27	6.26	6.79	7.33	9.57	10.76
	15.5	1.98	2.62	2.84	3.29	4.22	6.20	6.72	7.25	9.48	10.66
	16	1.59	2.12	2.30	2.68	3.45	5.12	5.56	6.02	7.94	8.96
	12	1.56	2.08	2.26	2.63	3.39	5.04	5.48	5.92	7.82	8.83
	8.5	1.54	2.05	2.23	2.59	3.34	4.97	5.40	5.85	7.73	8.73
W	5X 18.5	1.68	2.24	2.43	2.82	3.63	5.37	5.83	6.30	8.29	9.35
	16	1.67	2.22	2.41	2.79	3.60	5.33	5.78	6.25	8.23	9.29
W	4X 13	1.38	1.85	2.01	2.33	3.02	4.52	4.92	5.33	7.08	8.02

Columns: M Shapes

M	14X 17.2	2.40	3.17	3.43	3.96	5.06	7.38	7.98	8.60	11.16	12.51
M	12X 11.8	2.00	2.65	2.87	3.33	4.26	6.26	6.78	7.32	9.56	10.75
M	10X 29.1	2.35	3.11	3.37	3.89	4.96	7.24	7.84	8.44	10.97	12.30
	22.9	2.33	3.08	3.34	3.86	4.93	7.19	7.78	8.38	10.89	12.21
	9	1.72	2.28	2.48	2.87	3.69	5.46	5.93	6.41	8.43	9.50
M	8X 37.7	2.60	3.44	3.72	4.29	5.47	7.95	8.59	9.25	11.98	13.40
	34.3	2.59	3.42	3.70	4.27	5.44	7.91	8.56	9.21	11.93	13.35
	32.6	2.58	3.41	3.69	4.26	5.43	7.89	8.54	9.19	11.90	13.32
	22.5	2.05	2.71	2.94	3.40	4.36	6.39	6.93	7.47	9.76	10.96
	18.5	2.03	2.69	2.92	3.38	4.33	6.35	6.88	7.42	9.70	10.89
	6.5	1.42	1.90	2.07	2.40	3.11	4.65	5.06	5.48	7.26	8.22
M	7X 5.5	1.28	1.71	1.86	2.17	2.82	4.24	4.62	5.01	6.68	7.58
M	6X 33.75	2.00	2.66	2.88	3.33	4.27	6.27	6.79	7.33	9.58	10.77
	22.5	1.98	2.62	2.84	3.29	4.22	6.20	6.72	7.25	9.48	10.66
	20	1.97	2.61	2.83	3.27	4.19	6.16	6.68	7.21	9.43	10.60
	4.4	1.13	1.52	1.65	1.93	2.52	3.81	4.16	4.52	6.07	6.91
M	5X 18.9	1.66	2.21	2.40	2.78	3.58	5.31	5.76	6.23	8.20	9.25
M	4X 16.3	1.36	1.81	1.97	2.29	2.97	4.45	4.85	5.25	6.99	7.91
	13.8	1.35	1.80	1.96	2.28	2.96	4.43	4.82	5.23	6.95	7.88
	13	1.34	1.79	1.95	2.27	2.94	4.41	4.81	5.21	6.93	7.85

04502911

Columns: W Shapes

	Monokote Thickness in Inches									
	5/8	13/16	7/8	1	1-1/4	1-3/4	1-7/8	2	2-1/2	2-3/4
W 14X 84	4.07	5.34	5.76	6.63	8.39	12.04	12.98	13.93	17.82	19.83
78	4.05	5.32	5.74	6.61	8.36	12.00	12.93	13.88	17.76	19.77
74	3.66	4.81	5.20	5.98	7.58	10.90	11.76	12.63	16.20	18.05
68	3.64	4.79	5.17	5.95	7.55	10.86	11.71	12.57	16.13	17.98
61	3.62	4.76	5.15	5.92	7.51	10.80	11.65	12.51	16.06	17.89
53	3.22	4.24	4.59	5.28	6.71	9.68	10.45	11.23	14.46	16.13
48	3.21	4.22	4.56	5.26	6.67	9.63	10.40	11.18	14.39	16.06
43	3.19	4.20	4.54	5.23	6.64	9.59	10.35	11.12	14.32	15.98
38	2.98	3.92	4.25	4.89	6.22	9.00	9.72	10.45	13.48	15.06
34	2.96	3.91	4.22	4.87	6.19	8.96	9.68	10.40	13.42	14.99
30	2.95	3.88	4.20	4.84	6.16	8.91	9.63	10.35	13.36	14.92
26	2.60	3.43	3.71	4.28	5.46	7.93	8.57	9.23	11.95	11.38
22	2.58	3.40	3.68	4.25	5.41	7.87	8.51	9.16	11.87	13.29
W 12X190	4.16	5.46	5.89	6.78	8.57	12.30	13.25	14.22	18.19	20.24
161	4.09	5.37	5.80	6.67	8.44	12.11	13.05	14.00	17.92	19.94
133	4.02	5.28	5.70	6.56	8.30	11.92	12.85	13.78	17.65	19.64
120	3.99	5.24	5.66	6.51	8.24	11.83	12.75	13.68	17.52	19.50
106	3.96	5.19	5.61	6.45	8.17	11.73	12.65	13.57	17.38	19.35
99	3.94	5.17	5.59	6.43	8.14	11.68	12.59	13.52	17.31	19.27
92	3.92	5.15	5.56	6.40	8.10	11.63	12.54	13.46	17.24	19.20
85	3.90	5.12	5.54	6.37	8.07	11.58	12.49	13.40	17.17	19.12
79	3.89	5.10	5.52	6.34	8.04	11.54	12.44	13.36	17.11	19.05
72	3.87	5.08	5.49	6.32	8.00	11.49	12.39	13.30	17.04	18.98
65	3.85	5.06	5.47	6.29	7.96	11.44	12.34	13.24	16.97	18.90
58	3.45	4.53	4.90	5.64	7.16	10.31	11.13	11.95	15.36	17.12
53	3.43	4.51	4.88	5.62	7.13	10.27	11.08	11.90	15.30	17.06
50	3.04	4.01	4.33	5.00	6.35	9.18	9.91	10.66	13.74	15.34
45	3.03	3.99	4.31	4.97	6.31	9.13	9.86	10.60	13.67	15.27
40	3.01	3.96	4.29	4.94	6.28	9.08	9.81	10.55	13.60	15.19
36	2.74	3.61	3.91	4.51	5.74	8.33	9.00	9.69	12.53	14.01
31	2.72	3.59	3.88	4.48	5.70	8.28	8.95	9.63	12.45	13.92
27	2.70	3.57	3.86	4.45	5.67	8.23	8.90	9.57	12.38	13.85
W 12X 22	2.23	2.94	3.19	3.69	4.71	6.89	7.46	8.04	10.46	11.74
19	2.21	2.92	3.16	3.66	4.67	6.84	7.40	7.98	10.39	11.66
16.5	2.19	2.90	3.14	3.63	4.64	6.79	7.35	7.92	10.32	11.58
14	2.18	2.88	3.12	3.61	4.61	6.75	7.31	7.88	10.27	11.53
W 10X112	3.41	4.48	4.84	5.58	7.07	10.20	11.00	11.82	15.19	16.94
100	3.37	4.43	4.79	5.52	7.01	10.10	10.90	11.71	15.05	16.79
89	3.34	4.39	4.75	5.47	6.94	10.01	10.80	11.60	14.92	16.64
77	3.30	4.35	4.70	5.41	6.87	9.91	10.70	11.49	14.78	16.49
72	3.29	4.33	4.68	5.39	6.84	9.87	10.65	11.44	14.72	16.42
66	3.27	4.30	4.65	5.36	6.80	9.82	10.60	11.39	14.65	16.34
60	3.25	4.28	4.63	5.33	6.77	9.77	10.54	11.33	14.58	16.26
54	3.24	4.26	4.60	5.30	6.73	9.71	10.49	11.27	14.50	16.18
49	3.22	4.24	4.58	5.28	6.70	9.67	10.44	11.22	14.44	16.11
45	2.82	3.72	4.02	4.64	5.90	8.55	9.24	9.94	12.84	14.35
39	2.80	3.69	3.99	4.60	5.85	8.49	9.17	9.87	12.75	14.26
33	2.77	3.66	3.96	4.56	5.81	8.43	9.11	9.80	12.66	14.16
29	2.37	3.14	3.39	3.92	5.01	7.30	7.90	8.51	11.05	12.39
25	2.35	3.11	3.37	3.89	4.97	7.25	7.84	8.45	10.98	12.31
21	2.33	3.09	3.34	3.86	4.93	7.19	7.78	8.39	10.90	12.22
19	2.01	2.66	2.89	3.34	4.28	6.28	6.81	7.35	9.60	10.79
17	1.99	2.64	2.87	3.32	4.25	6.24	6.77	7.30	9.54	10.73
15	1.98	2.63	2.85	3.30	4.22	6.20	6.73	7.26	9.49	10.67
11.5	1.96	2.60	2.82	3.27	4.19	6.15	6.67	7.20	9.41	10.58
W 8X 67	2.73	3.61	3.90	4.50	5.73	8.31	8.98	9.67	12.50	13.98
58	2.70	3.56	3.85	4.45	5.66	8.22	8.89	9.56	12.37	13.83
48	2.66	3.51	3.80	4.39	5.59	8.12	8.77	9.44	12.22	13.67
40	2.63	3.48	3.76	4.34	5.53	8.03	8.68	9.35	12.10	13.54
35	2.62	3.45	3.73	4.31	5.49	7.98	8.63	9.29	12.02	13.46
31	2.60	3.43	3.71	4.29	5.46	7.94	8.58	9.24	11.96	13.39
28	2.30	3.04	3.30	3.81	4.87	7.10	7.69	8.29	10.77	12.08
24	2.28	3.02	3.27	3.78	4.83	7.05	7.64	8.23	10.70	12.00

Notes

04502914

04502913

Columns: HP Shapes

	Monokote Thickness in Inches									
	5/8	13/16	7/8	1	1-1/4	1-3/4	1-7/8	2	2-1/2	2-3/4
HP14X117	4.63	6.07	6.55	7.53	9.52	13.62	14.67	15.73	20.08	22.32
102	4.60	6.03	6.51	7.48	9.46	13.53	14.58	15.63	19.96	22.18
89	4.57	5.99	6.47	7.44	9.40	13.46	14.50	15.55	19.85	22.06
73	4.54	5.95	6.42	7.38	9.33	13.36	14.39	15.44	19.71	21.91
HP12X 74	3.87	5.09	5.50	6.32	8.01	11.51	12.41	13.32	17.06	19.00
53	3.82	5.02	5.42	6.24	7.90	11.36	12.25	13.15	16.85	18.76
HP10X 57	3.24	4.27	4.61	5.32	6.75	9.74	10.51	11.30	14.54	16.22
42	3.20	4.21	4.55	5.24	6.66	9.61	10.38	11.15	14.36	16.02
HP 8X 36	2.62	3.46	3.74	4.32	5.50	7.99	8.64	9.30	12.04	13.48
S 24X120.0	4.22	5.54	5.99	6.88	8.71	12.48	13.45	14.43	18.46	20.53
105.9	4.21	5.52	5.96	6.85	8.67	12.43	13.40	14.38	18.39	20.45
100.0	4.06	5.33	5.76	6.62	8.38	12.03	12.97	13.92	17.81	19.82
90.0	4.05	5.31	5.74	6.60	8.36	11.99	12.93	13.87	17.76	19.77
79.9	4.04	5.30	5.72	6.58	8.33	11.96	12.89	13.83	17.71	19.71
S 20X 95.0	3.63	4.77	5.16	5.93	7.52	10.82	11.67	12.53	16.08	17.92
85.0	3.61	4.75	5.13	5.91	7.49	10.78	11.63	12.48	16.02	17.85
75.0	3.48	4.57	4.94	5.69	7.22	10.40	11.22	12.05	15.48	17.25
65.4	3.46	4.55	4.92	5.67	7.19	10.35	11.17	12.00	15.42	17.19
S 18X 70.0	3.23	4.25	4.60	5.30	6.73	9.71	10.48	11.26	14.50	16.18
54.7	3.21	4.22	4.56	5.26	6.68	9.64	10.40	11.18	14.39	16.06
S 15X 50.0	2.81	3.70	4.01	4.62	5.88	8.53	9.21	9.91	12.80	14.31
42.9	2.80	3.69	3.99	4.60	5.85	8.48	9.17	9.86	12.75	14.25
S 12X 50.0	2.45	3.24	3.50	4.04	5.16	7.52	8.13	8.76	11.36	12.73
40.8	2.43	3.20	3.47	4.01	5.11	7.45	8.06	8.68	11.27	12.62
35.0	2.39	3.16	3.42	3.95	5.05	7.36	7.96	8.58	11.14	12.48
31.8	2.39	3.15	3.41	3.94	5.03	7.34	7.94	8.55	11.10	12.44
S 10X 35.0	2.14	2.83	3.07	3.55	4.54	6.65	7.20	7.76	10.12	11.36
25.4	2.11	2.79	3.03	3.50	4.48	6.57	7.11	7.67	10.00	11.23
S 8X 23.0	1.79	2.37	2.57	2.98	3.83	5.66	6.14	6.63	8.71	9.81
18.4	1.77	2.35	2.55	2.96	3.80	5.61	6.09	6.58	8.64	9.73
S 7X 20.0	1.62	2.15	2.34	2.71	3.49	5.18	5.63	6.09	8.03	9.06
15.3	1.60	2.13	2.31	2.68	3.45	5.13	5.57	6.02	7.95	8.97
S 6X 17.25	1.45	1.94	2.10	2.44	3.16	4.71	5.13	5.56	7.36	8.33
12.5	1.43	1.90	2.07	2.41	3.11	4.65	5.06	5.48	7.26	8.22
S 5X 14.75	1.28	1.72	1.87	2.18	2.83	4.25	4.63	5.02	6.70	7.60
10.0	1.25	1.68	1.83	2.13	2.77	4.17	4.55	4.93	6.58	7.47
S 4X 9.5	1.10	1.47	1.61	1.88	2.45	3.72	4.07	4.42	5.94	6.77
7.7	1.08	1.46	1.59	1.86	2.42	3.68	4.03	4.38	5.89	6.71
S 3X 7.5	0.93	1.26	1.37	1.61	2.12	3.26	3.57	3.89	5.28	6.04
5.7	0.91	1.23	1.35	1.58	2.08	3.21	3.51	3.83	5.20	5.95

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