

## FOAMKORE/BALSAKORE Shelf Deflection Test Results

### Shelf Deflection Information\*

The Department of Wood Science in the Division of Forestry at West Virginia University conducted a study for the Architectural Woodwork Institute (AWI) regarding the deflection of wood shelving materials under various amount of stress. The following table represents their findings with the various products tested.

The table shows total uniformly distributed load requirements necessary to cause deflection of ¼" in shelves 8 and 12" wide with spans (i.e., unfixed, supported at each end) of 36", 42", and 48". Load required to deflect shelves more or less than ¼" may be estimated by direct proportion. For example, the uniformly distributed load required to cause a deflection of 1/8" is one-half that of the value in the table. For widths different than 8 or 12" (the values used in the table), load required to cause a ¼" deflection may also be determined by direct proportion. A 6" wide shelf, for example, will deflect twice as much as a 12" wide shelf under the same load.

\* Taken from AWI – 8<sup>th</sup> Edition Quality Standards Section 600 – page 293

The Foam/Balsakore products were tested under the same directions as the non-Foamkore materials. The chart provides a means of comparison for different materials and thickness to help determine what strength and support may be required for you project.

Foamkore/Balsakore Results

FOAMKORE/BALSAKORE		LENGTH	36"		42"		48"	
ITEM	FACE	THICKNESS	8"	12"	8"	12"	8"	12"
FK75HB08	.080 Hardboard	¾"	41	62	26	39	18	27
FK100HB08	.080 Hardboard	1"	55	83	36	55	25	38
FB150HB08	.080 Hardboard	1 ½"	98	150	70	105	48	74
FB200HB08	.080 Hardboard	2"	158	240	134	191	95	142
FB300HB08	.080 Hardboard	3"	369	550	218	325	176	263
FK75FB12	.125 Fiberboard	¾"	36	56	23	35	16	25
FK100FB12	.125 Fiberboard	1"	47	77	36	50	25	37
FK150FB12	.125 Fiberboard	1 ½"	104	153	75	112	51	76
FK200FB12	.125 Fiberboard	2"	165	250	131	199	99	148
FK100FB25	.250 Fiberboard	1"	82	122	51	78	37	53
FK150FB25	.250 Fiberboard	1 ½"	136	205	96	136	68	103
FK200FB25	.250 Fiberboard	2"	172	260	134	200	104	157
FK75PP12	.120 Poplar Plywood	¾"	44	66	30	42	19	28
FK100PP12	.120 Poplar Plywood	1"	74	111	49	78	35	50
FK150PP12	.120 Poplar Plywood	1 ½"	125	186	86	127	62	94
FK200PP12	.120 Poplar Plywood	2"	178	270	135	204	106	158

AWI Quality Standard Results

MATERIAL	THICKNESS	36"		42"		48"	
		8"	12"	8"	12"	8"	12"
Particleboard	¾"	46	69	29	43	19	28
MDF	¾"	58	87	36	54	25	38
Birch plywood	¾"	86	129	54	81	36	54
Particleboard	1"	109	164	69	102	45	66
MDF	1"	137	206	85	128	59	90
Poplar Lumber	¾"	189	284	117	175	78	117
Birch Lumber	¾"	232	348	146	219	98	146

Note: The information and ratings stated here pertain to material currently offered and represents results of test believed to be reliable. However, due to variations in handling and in methods not known or under our control, neither AWI, AWMAC or Kerfkore can make any warranties of guarantees as to end results.

**Foamkore** is a product of **Kerfkore Co.** Brunswick, GA 31525 – 800-637-3539