

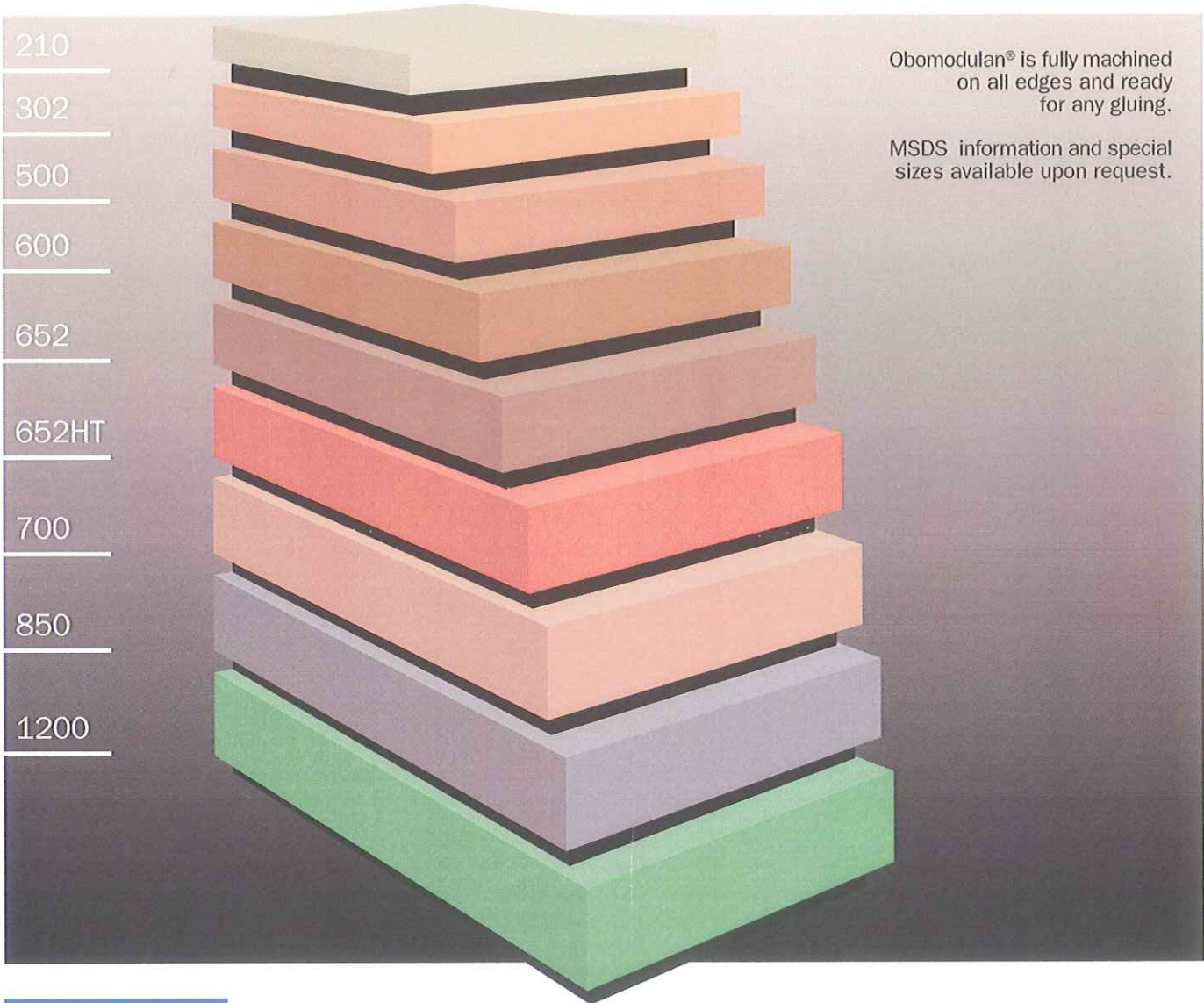


Obomodulan Tooling Board



Identification #	210	302	500	600	652	652HT	700	850	1200
Applications	Architectural Models	Master Models	Master Models	Master Models	Pressing Tools	Pressing Tools	Pressing Tools		Core Boxes
	Prototype Models							Checking Fixtures	Foundry Patterns

Obomodulan® Tooling Board



Obomodulan® is fully machined on all edges and ready for any gluing.

MSDS information and special sizes available upon request.



MCCAUSEY
Specialty Products

32205 Little Mack Avenue PO Box 545
Roseville MI 48066-0545
www.mccausey.com
P 586 294 9663 F 586 294 1505



Obomodulan Tooling Board



Obomodulan® Technical Data

Identification #	210	302	500	600	652	652HT	700	850	1200
Color	Lt. Grey	Pink	Magma	Mocca	Mocca	Terracotta	Terra	Grey	Green
Density lbs/ft ²	12	20	31	39	40	40	45	51	75
Compressive strength psi	435	725	2466	2611	4351	3916	4786	5366	11893
Flexural strength psi	435	1015	2756	3191	4351	4061	4496	5366	13634
Expansion coefficient range 77-158 deg. F	24 x 10 ⁻⁶	23 x 10 ⁻⁶	20 x 10 ⁻⁶	30 x 10 ⁻⁶	31 x 10 ⁻⁶	34 x 10 ⁻⁶	25 x 10 ⁻⁶	31 x 10 ⁻⁶	32 x 10 ⁻⁶
Shore D hardness	18-25	28-45	47-63	46-56	60-70	58-67	65-75	65-75	81-85
Max. working temp. deg. F	176	176	176	176	176	248	176	176	176

Metric actual mm	US approx. in.*	210	302	500	600	652	652HT	700	850	1200
25 x 500 x 1500mm	1 x 20 x 60"					●				
25 x 500 x 2000mm	1 x 20 x 80"			●						
50 x 500 x 1500mm	2 x 20 x 60"			●	●	●	●		●	●
50 x 500 x 2000mm	2 x 20 x 80"		●							
50 x 600 x 1500mm	2 x 24 x 60"							●		
50 x 1000 x 1000mm	2 x 40 x 40"									●
50 x 1000 x 2000mm	2 x 40 x 80"		●							
75 x 500 x 1500mm	3 x 20 x 60"			●	●	●	●		●	●
75 x 600 x 1500mm	3 x 24 x 60"							●		
75 x 500 x 2000mm	3 x 20 x 80"			●	●	●				
100 x 500 x 1500mm	4 x 20 x 60"			●	●	●	●	●	●	●
100 x 500 x 2000mm	4 x 20 x 80"		●							
100 x 600 x 600mm	4 x 24 x 24"			●						
100 x 1000 x 1500mm	4 x 40 x 60"			●						
100 x 1000 x 2000mm	4 x 40 x 80"	●	●							
150 x 500 x 1500mm	6 x 20 x 60"			●	●	●				
150 x 500 x 2000mm	6 x 20 x 80"	●	●							
150 x 1000 x 2000mm	6 x 40 x 80"	●	●							
200 x 500 x 2000mm	8 x 20 x 80"		●							
200 x 1000 x 2000mm	8 x 40 x 80"	●								

* Special sizes available on request



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obomodulan® – machining data

grade	Density kg/m ³	roughing cut	finishing cut, contour cut
MX	1600	n = 10,000 - 12,000 1/min v _f = 4,500 - 7,500 mm/min a _p = 1.0 - 3.0 mm 2 flute carbide milling cutter	n = 14,000 1/min v _f = 3,500 mm/min a _p = 0.2 - 0.5 mm 2 flute ball nose carbide milling cutter
MW MY	1200	n = 8,000 - 15,000 1/min v _f = 2,000 - 3,000 mm/min a _p = 1.0 - 3.0 mm 2 flute carbide milling cutter	n = 8,000 - 15,000 1/min v _f = 1,000 - 3,000 mm/min a _p = 0.2 - 0.5 mm 2 flute ball nose carbide milling cutter
MT	1000	n = 1,000 - 1,500 1/min v _f = 1,000 - 2,000 mm/min a _p = 1.0 - 2.0 mm 2 flute carbide milling cutter	n = 3,000 - 5,000 1/min v _f = 2,000 - 3,000 mm/min a _p = 0.2 - 0.5 mm 2 flute ball nose carbide milling cutter
MS MQ ML	750 650 500	n = 8,000 - 15,000 1/min v _f = 2,000 - 3,000 mm/min a _p = 3.0 - 5.0 mm 2 flute carbide milling cutter	n = 8,000 - 15,000 1/min v _f = 1,000 - 3,000 mm/min a _p = 0.2 - 0.5 mm 2 flute ball nose carbide milling cutter

Key: n = spindle speed, v_f = feed rate, a_p = depth of cut

All mentioned data are recommended indicative values where OBO is achieving the best results.

According to the machine type, tool and work piece all parameter have to be proven by the person in charge of machining.

The working values should not exceed the recommended max. values of the machine manufacturer.

Recommended Reference Data

Wood or plastic working machines

e.g. Carbide milling cutter

Diameter 10 mm, face-cutting
Speed : n = 2000 - 15000 rpm⁻¹
Feed : v_f = 3 - 5 m/min
Depth of cut : Roughing 10 - 15 mm
Finishing up to max. 3 mm

1.2 Finishing: Carbide spherical cutter

a) Diameter 6 mm
Speed : n = 3000 - 6000 rpm⁻¹
Feed : v_f = 0,8 - 2 m/min
b) Speed : n = 2000 - 5000 rpm⁻¹
Feed : v_f = 1 - 2 m/min

General Remarks:

The cutting speed v = n x Jt d (m/min) should not exceed 250 m/min for HSS cutters and 1000 m/min for carbide cutters.
Refer to and comply with the manufacturer's specifications.

High speed milling

e.g. Carbide milling cutter

Diameter 20 mm,
Radius R = 10 mm
Speed : n > 20000 rpm⁻¹
Feed : v_f = 12 bis 15 m/min
Cell spacing : 0,5 mm
Depth of cut : 1 mm

Metal working machines

1.1 Roughing: Straight-shank milling cutter, carbide or HSS

Diameter 25 - 40 mm
Speed : n = 1500 - 2000 rpm⁻¹
Feed : v_f = 2 - 3 m/min
Depth of cut : 10-15 mm, up to 100 mm depth

Circular saw

For the sawing of obomodulan® 500 up to 1200 we recommend the following parameter:

- diameter of saw blade für boards of 100 up to 150 mm thickness: Ø 350 up to 450 mm
- 2800 up to 3000 rpm
- use proper wedge
- hard metal tipped saw blade with alternate tooth construction and medium tooth quantity
- please also observe any safety code regulations

All data relating to the material as well as machining and processing are provided to the best of our knowledge without obligation and should not be considered as an assurance of either material properties or as machining and processing options in individual cases.