



MP-1055 MODEL PLANK®

PRODUCT BULLETIN



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DESCRIPTION:

MODEL PLANK® MP-1055 is a urethane based Tooling Plank specifically developed as an economical and dimensionally stable material for master models. **MODEL PLANK® MP-1055** has no odor and is manufactured without grain in order to facilitate accurate machining of master models by N/C tape or CAD/CAM systems. It is also formulated to produce chips instead of dust. MP-1055 is very versatile and can be used for master models, die models, styling models and prototypes, prototype foundry patterns, prototype vacuum form molds and visual models.

HANDLING CHARACTERISTICS:

	<u>U.S. Test Results</u>	<u>Metric Test Results</u>
Color.....	Chocolate Brown	
Hardness @ 75°F.....	60 Shore D	
Hardness@ 150°F.....	50 Shore D	
Density ¹	41 lbs/ft ³	0.662 g/cm ³
Flexural Strength ²	3,618 psi.....	24.9 MPa
Flexural Modulus ²	209,540 psi.....	1,445 MPa
Tensile Strength ³	2,910 psi.....	20.1 MPa
Elongation ³	1.42%	
Compressive Strength ⁴	4,054 psi.....	28.0 MPa
Unnotched Izod Impact (complete break) ⁵	1.21 ft lbs/in.....	64.6 J/m
Heat Deflection Temperature @ 264 psi ⁶	140°F.....	60°C
Coefficient of Linear Thermal Expansion ⁷	3.44 x 10 ⁻⁵ in/in/°F.....	6.18 x 10 ⁻⁵ mm/mm/°C
Machinability.....	Excellent	
Stability.....	See Page 2	

Ambient Use Adhesive System TCC-205 Adhesive with TCC-102 or TCC-104
Patch Paste P-34 Model Plank Filler with White Cream Hardener

Standard Size Available: 2", 3", 4" T x 16"W x 60"L

****Other sizes available upon request**

Testing performed by an Independent Certified Laboratory.

- 1. ASTM D 792-91 2. ASTM D 790-95a 3. ASTM D 638-95
- 4. ASTM D 695-91 5. ASTM D 256-93 6. ASTM D 648-82
- 7. ASTM D 696-91

STORAGE: Store all Tooling Planks on a flat surface at 60°F-100°F.

STABILITY OF MP-1055 MODEL PLANK®

	<u>Weight(g)</u>	<u>Length(mm)</u>
Initial(2" x 4" x 4" pieces)	368.38	105.44
After 24 hours at -30°F	368.62	105.20
After 24 hours at standard lab conditions	368.38	105.44
After 6 hours at 130°F	368.33	105.63
After 24 hours at standard lab conditions	368.37	105.44
After 168 hours at 100°F/100% Relative Humidity	369.62	105.53
After 24 hours at standard lab conditions	368.93	105.43
Additional 24 hours at standard lab conditions	368.89	105.46

RECOMMENDED CNC MACHINING INFORMATION

(Carbide Cutters are highly recommended)

	Inches per minute (Feed IPM)	Plunge (mm)	Spindle Speed (rpm)
2" E-Mill for Roughing	100	25	6000
3/4" Ball	75	20	3000+
1/2" Ball	60-75	10-20	3000+
1/2" x 1/32" R	40	20	4000
1/4" Ball	60	10-20	5000

These are possible recommendations. There may be some variance depending on cutters and CNC mill capabilities.

CUTTING SUGGESTIONS FOR TOOLING PLANKS

CUTTING HORIZONTALLY ON A PLANNER MILL: Head is a 10 insert, 8" in diameter. For best results use 5 inserts. Inserts are SFE-42E-10J-C5. We have found a C2 Carbide insert does not chip as easily. RPM 2200-2400 – table feed 50-55 inches per minute. Some modifications may be needed.

SAW BLADES: A carbide-tipped, positive rake saw blade with air slots should be used, if possible. We suggest alternate top bevel ATB or triple chip grind TCG rpm, depending on the saw. We suggest 3,500 max rpm. Check with manufacturer on saw and blade size.

- 12" blade, 48 teeth
- 16" blade, 48 teeth
- 18" blade, 60 teeth

When sawing, you may need to back part away from blade to relieve heat and binding, then proceed with cut. It may be necessary to take more than one cut to achieve best finish.

MP1055 Tech/Revised 10/28/09
Supercedes 1/29/07