



**MP-1055
MODEL PLANK®**

PRODUCT BULLETIN



TOOL CHEMICAL COMPOSITES

www.axson-technologies.com
31200 Stephenson Hwy

800.344.7776
Madison Heights, MI 48071

axsonmh@axson.com
Ph 248.588.2270 Fax 248.588.5909

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.

TYPICAL PHYSICAL PROPERTIES:

	<u>U.S. Test Results</u>	<u>Metric Test Results</u>
Color.....	Chocolate Brown	
Hardness @ 77°F (25°C)	60 Shore D	
Hardness@ 150°F (66°C)	50 Shore D	
Density ¹	41 lbs/ft ³	0.662 g/cc
Flexural Strength ²	3,618 psi	25MPa
Flexural Modulus ²	209,540 psi	1,445MPa
Tensile Strength ³	2,910 psi	20MPa
Elongation ³	1.4%	
Compressive Strength ⁴	4,054 psi	28MPa
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 Thermal Expansion (ppm/°F (°C)).....	34	(62)
Machinability.....	Excellent	
Stability.....	See Page 2	

Ambient Use Adhesive System.....TCC230 Epoxy Adhesive with TCC-102 or TCC-104 Hardeners
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 (16°C-38°C).

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.

MP-1055 Tech/Revised 1/28/15
Supersedes 6/20/14

The information contained in this technical data sheet results from research and tests conducted in our laboratories under precise conditions. Seller cannot anticipate all conditions under which seller's products, or the products of other manufacturers in combination with seller's products, may be used. It is the responsibility of the user to determine the suitability of the Axson Technologies' products, under their own conditions, before commencing with the proposed application. In no event shall Axson Technologies, Inc. be liable for any direct, indirect, punitive, incidental, special, and/or consequential damages, to property or life, whatsoever arising out of or connected with the use or misuse of our products.

AXSON TECHNOLOGIES US +1 248 588 2270 axsonmh@axson.com axson-na.com	CHINA +86 21 58 68 30 37 marketing.china@axson.com	GERMANY +49 6 07 44 07 11-0 verkauf@axson.com	INDIA +91 20 25 56 07 10-11 info.india@axson.com	ITALY +39 02 96 70 23 36 axson@axson.it	JAPAN +81 5 64 26 25 91 sales.japan@axson.com	FRANCE Global Headquarters +33 1 34 40 34 60 axson@axson.com axson-technologies.com
	MEXICO +52 55 52 64 49 22 marketing@axson.com.mx	MIDDLE EAST +971 7 2432227 axsonmideast@axson.com	SLOVAKIA +42 1 76 42 25 26 axson.sk@axson.com	SPAIN +34 9 32 25 16 20 spain@axson.com	U.K. +44 16 38 66 00 62 sales.uk@axson.com	