



# Lab 1151 (Tooling Board)

## Polyurethane Machinable Slab

### DESCRIPTION

Machinable slab with aluminum filler designed for checking fixtures

### PROPERTIES

- Contains aluminum
- Excellent surface aspect after machining
- Very good dimensional stability
- Low density

PHYSICAL PROPERTIES			
Color		grey	
Density at 23°C	ISO 2781 : 1996	lbs./ft <sup>3</sup> (g/cc)	51 (0.82)

MECHANICAL PROPERTIES at 23°C			
Hardness	ISO 868 :2003	Shore D1	76
Flexural modulus	ISO 178 :2001	psi ( MPa)	360,000 (2,500)
Flexural strength	ISO 178 :2001	psi ( MPa)	6,600 (45)
Compressive strength	ISO 604 :2002	psi ( MPa)	8,100 (56)
Coefficient of thermal expansion (CTE) (50 – 140°F) (10 – 60°C)	ISO 11357 : 1999	ppm/°F (°C)	27 (50)
Glass transition temperature (Tg)	ISO 11359 : 2002	°F (°C)	158 (70)
Impact strength (CHARPY) Unnotched specimens	ISO 179/1eU :1994	Ft.lbf/in <sup>2</sup> (kJ/m <sup>2</sup> )	3 (6)

(1) Average values obtained on slabs

MACHINING PARAMETERS		
	Cutter edge velocity (Vc in ft/min (or m/min))	Feed per tooth (fz in inches (or mm/revolution))
Rough shape	820 (250)	0.011 (0.28)
Finish	1312 (400)	0.004 (0.09)

$n = (12 \text{ English (or 1000 metric)} \times Vc) / (\pi \times Dc)$	$Vf = n \times fz \times Z$
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- Vc: Cutter edge velocity in ft/mi or (m/min)
- Dc: cutting diameter in in or (mm)
- n: Spindle speed in revolution/min
- fz: Feed per tooth in inches (or mm)/revolution
- Z: number of teeth
- Vf: feed speed in inches (or mm)/min

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