

## DESCRIPTION

**PROMASTER™ 565 is a medium-density polyurethane board that offers a high-quality surface finish after machining. It is ideal for model making, mold production, and prototyping. It allows to produce parts with excellent dimensional and thermal stability.**

## CHARACTERISTICS

- Non-porous product
- Excellent surface appearance
- Available in various thicknesses: 1500 X 500 mm X 25, 50, 75, 100, 150
- Easily machinable
- Produces little dust when machined (shavings)
- Fine, dense surface
- Can be assembled with TECHNO LAM™ and TECHNO BOND™ adhesives
- Repairs possible with our P-TEC™ 8400 product
- Can be sealed and varnished
- Very high dimensional stability
- Good compressive strength
- Excellent thermal stability

## MACHINING

- **POLYMÈRES TECHNOLOGIES** recommends the use of high-speed CNC equipment, similar to what is used for plastic, wood, and aluminum.
- We strongly recommend using carbide tools (see table below).
- Before production, validate the tools to be used.

## ASSEMBLAGE/FINITION

**PROMASTER™ 565** can be assembled with the **TECHNO BOND™ 8090** adhesive, as needed. The P-TEC™ 8400 repair paste is used for repairing holes, cracks, broken corners, and edges.

Consult POLYMÈRES TECHNOLOGIES for more information.

## **PHYSICAL PROPERTIES**

<b>Color</b>	Pink		
<b>Density</b>		g/cm <sup>3</sup>	0.67

## MECHANICAL PROPERTIES

CATEGORIES	METHOD	RESULT	
Hardness	ASTM D 2240	Shore D	65
Compressive strength	ASTM D 695	MPa <sup>1</sup>	20 - 25
		psi	2900 - 3625
Flexural strength	ASTM D 5934	MPa	20 - 25
	ASTM D 790	psi	2175 - 2900
Thermal expansion coefficient (25-70°C)	ASTM-E831	po/po/°F	25-27.78 x 10 <sup>-6</sup>
Maximum work temperature		°C	90
Temperature resistance	ASTM D 648	°C	70 - 80

## MACHINING PARAMETERS

DRAFT	FINISH
n = 8,000-15,000 1/min	n = 8,000-15,000 1/min
vf = 2,000-3,500 mm/min	vf = 1,000-3,000 mm/min
ap = 3.0-5.0 mm	ap = 0.2-0.5 mm
2 flute carbide milling cutter	2 flute ball nose carbide milling cutter

$V_c$	Cutting speed	[m/min]
$F_z$	Feed per tooth	[mm]
$a_p$	Axial depth of cut	[mm]
$a_e$	Cutting width	[mm]
Z	Number of teeth	
D	Tool diameter	[mm]
n	Rotation speed	[mm <sup>-1</sup> ]
$V_f$	Feed speed	[mm/min]

Conversion formula	$n = \frac{V_c \times 1000}{D \times \pi}$ [min <sup>-1</sup> ]	$V_c = \frac{N \times \pi \times D}{1000}$ [m/min]	$V_f = f_z \times z \times n$ [mm/min]	$f_z = \frac{V_f}{Z \times n}$ [mm]
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## PRECAUTIONS

- Consult material safety data sheets before use.
- When handling, it is essential to strictly observe the appropriate work hygiene measures:
  - Ensure good ventilation.
  - Wear gloves and safety glasses.
  - No smoking during machining.
- Boards must be stored in a dry and temperate environment.
- Avoid contact with skin and eyes. In case of eye contact, rinse well with water and consult a physician immediately. In case of contact with skin, rinse well with soap and water.

## ASSUMPTION OF RISK

Customer assumes all risk and liability for the results obtained by the use of any POLYMÈRES TECHNOLOGIES products, including, without limiting the generality of the foregoing, the use of the CHILL EPOXY™ line of products, and the use of any process, whether in terms of general effectiveness, success or failure, and regardless of any oral or written statements made by way of technical advice or otherwise, related to the use of any POLYMÈRES TECHNOLOGIES product.

<sup>1</sup> 1 MPa = 145 lb