



**NECUMER**  
SOLID SOLUTIONS

# NECURON® 690

## POLYURETHANE BOARD MATERIAL - TECHNICAL DATA SHEET

### TECHNICAL DATA

Colour  
Coefficient of thermal expansion  
Temperature resistance  
Shore D  
Compressive strength  
Flexural strength  
Density  
Abrasion resistance (at defined parameters)  
Fire protection classification  
Electrical current resistance  
Notched impact strength  
Thermal conductivity

### CHARACTERISTICS

- VERY HIGH TEMPERATURE RESISTANCE AT A LOW DENSITY
- VERY LOW COEFFICIENT OF THERMAL EXPANSION

### APPLICATIONS

- TOOLS FOR SERIAL PRODUCTION OF SMALL BATCH SIZES (E.G. DRAW DIE MOULDS AND FOAM MOULDS)
- LAMINATING TOOLS, MODELS AND PATTERNS
- RIM-TOOLS
- VACUUM FORMING, DEEP-DRAW DIES

### DIMENSIONS

#### BASIC FORMAT (MM)

1,500 x 500

#### AVAILABLE HEIGHTS (MM)

10, 15, 20, 25, 30, 35,  
40, 45, 50, 75, 100, 150

*Other dimensions on request.  
Surfaces machined parallel.*

grey / violet  
approx.  $35 \times 10^{-6}$  K-1  
approx. 105 - 110 °C  
approx. 70  
approx. 34 N/mm<sup>2</sup>  
approx. 30 N/mm<sup>2</sup>  
approx. 0.70 g/cm<sup>3</sup>  
approx. - mm<sup>3</sup>  
B2  
approx. -  $\Omega$  x cm  
approx. - kJ/m<sup>2</sup>  
approx. - W/mk

visual  
DIN 53752-B  
ISO 75  
ISO 868  
DIN 53421  
ISO 178  
ISO 845  
DIN ISO 4649  
DIN 4102  
IEC 93  
ISO 179-1  
DIN 52612

*Contains no halogens, plasticizer or solvent. Manufactured fluorocarbohydrate-free. Physiologically harmless.*

## PROCESSING

ADHESIVE	COLOUR	MIXTURE RATIO A TO B (BY WEIGHT)	POT LIFE IN MINUTES AT 20°C	CURING TIME AT 20°C
NECURON® K7S	STRAW- COLOURED	1:0,25	20-30	4-5 HRS

■ Or usual and compatible patternmaking adhesives/resins. We recommend that boards are plane-parallel to ensure good glue joints.

## MACHINING

**Machining temperature:** 20°C - 25°C

**Tools:** Metal-cutting tools

Machining polyurethane boards with a laser may produce (depending on the processing temperature) visible sooty decomposition products, water vapor and carbon dioxide as well as carbon monoxide and nitrogenous compounds, including nitrogen oxides and traces of hydrogen cyanide and isocyanate vapors.

## MILLING PARAMETERS

PARAMETERS	ROUGHING	FINISHING
Type of tool	Finishing tools d=80mm	Finishing tools d=80mm
Tool diameter [d](mm)	80	80
Cutting speed [Vc](m/sek)	50	50
Speed [n](1/min)	12000	8000
Feed speed (m/min)	10	7.5
Tooth speed [fz](mm)	0.21	0.21
Number of teeth [z]	4	4
Cutting depth [ae](mm)	4	0.5
Cutter mark length [fzeff](mm)	38	5

## STORAGE/TRANSPORT

NECURON®-boards should be stored on a flat underground and in a dry space at a temperature between 18°C and 25°C.

Variations in temperature should be avoided during transport and storage.

### NECURON® 690

*This material does not contain any fillers that release harmful dust during machining. Nevertheless the dust content in the air should not rise above 6 mg/m<sup>3</sup>. Safety procedures recommended by the vocational co-operative of the chemical industry should be complied with. The article is not a regulatory product according to ICC regulations. In accordance with general local and national regulations waste is to be disposed by incineration in authorised places or conveyed to authorised tips (EAK 120105). Technical statements and recommendations refer to current standard of technique and are based on our own experience. Further developments and improvements are reserved. Due to the variety of processing possibilities own experiments are recommended to optimise results.*

*This data sheet is not legally binding. Actual specifications and / or features may vary.*

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