RenShape® BM 5055 – epoxy board material

Applications	**Properties**
• prepregs • data control models • cubing • vacuum forming moulds	• very fine surface structure • easily machinable • very good dimensional stability • high deflection temperature up to 140 °C

Technical data (measured average values)		
Density approx.	**700 - 750 kg/m³**	
Colour	**light green**	
Compressive strength	**60 - 70 MPa**	DIN EN ISO 604
Flexural strength	**2300 - 2600 MPa**	DIN EN ISO 178
Bending strength	**30 - 40 MPa**	DIN EN ISO 178
Linear thermal expansion coefficient temperature from approx. 25 - 70 °C	**35 - 40 x 10^{-6} · K^{-1}**	according to DIN 53752
Shore hardness	**67 - 75 Shore-D**	DIN 53505
Deflection temperature	**135 - 140 °C**	

Standard dimensions	1524 x 610 x 50 mm 1524 x 610 x 75 mm 1524 x 610 x 100 mm 1524 x 610 x 150 mm 1524 x 610 x 200 mm		
glue  	**OBO-bond EP 35**		
	Mixing ratio by proportion of weight	Resin 100	Hardener 14
	Pot life 150 g / 20 °C	35 min.	
	Curing time at room temperature	16 hours	
glue  	**RenGel® SW 18 with Ren® HY 5159**		
	Mixing ratio by proportion of weight	Resin 100	Hardener 16
	Pot life 150 g / 20 °C	30 min.	
	Curing time at room temperature	12 hours	

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Storage	The boards must be stored dry, on a flat underground, at room temperature! Strong temperature differences during storage and transport should be avoided.
Machining	Before machining, the boards should acclimatise at a temperature of 18 - 25 °C. The obomodulan® materials can be machined with all standard wood and metal working machines. The used milling cutters should be made of carbide. Solid carbide for small milling cutters and hard metal carbide blades for larger milling cutter diameters. The geometry of the cutting tools is the same as for the machining of aluminium. However, we recommend that you test your own machines in order to get the best possible results.
Recommendation heating and cooling cycle for tools made of EP boards	It is important that the heating rate and cooling is not too fast to avoid stresses, maximum 0.4°C per minute. The heat transfer will be about 10mm per hour. Depending on the geometry and thickness of the tool, the heat transfer into the material may vary. The temperature difference (delta T) between the centre of the tool and the outer surface must not exceed 10°C during either ramp-up or cool down. If the temperature difference exceeds 10°C, then these parameters need to be adjusted until this is no longer the case. After cooling, it is best to leave the tool in the switched-off and closed autoclave overnight until room temperature is reached also in the centre of the tool.
Working and safety recommendations	Please read the material safety data sheet for all necessary information on health and safety at work and the general safety recommendations.
Waste disposal	After prior consultation of the responsible authorities (waste management company, district, trade supervision office, etc.), cured PU foam can be disposed as household or commercial waste in most regions.
Legal notice	All information about the material, the processing and machining are given without obligation to the best of our knowledge and are not to be taken as an assurance of the properties of the material or the processing and application possibilities in individual cases. The user must check the product himself for its suitability for the intended application. In all other respects our terms of sale apply, which can be viewed and downloaded at any time from our homepage www.obo-werke.de.