

TECHNICAL DATA SHEET

RS2030 – PREFILLED TOOLING RESIN HP FOR MOULD

RS2030 is a filled and pre-accelerated unsaturated polyester resin with low styrene content.

RS2030 has been designed for the lamination with results of excellent surface finishes and high dimensional stability of the moulds.

RS2030 hardens very well at room temperature both with 1 layer of MAT and with 4 or more layers of MAT applied wet on wet.

RS2030 is particularly suitable for the production of large surfaces and also for the production of moulds used in infusion process: characterized by a low exothermic peak, a low volumetric and linear shrinkage and a high thixotropy that allows to work quickly without dripping, and a low styrene content that allows to operate with low styrene emission, significantly improving the work environment.

GENERAL INSTRUCTIONS FOR USE

More details and examples of lamination are available on the guideline:

“Tooling resins: for the rapid mould construction”.

Manual lamination (without skincoat):

- On the hardened gelcoat/or skincoat apply a thin layer of hardened RS2030.
- Laminate the first 300g/m² MAT, well impregnated, carefully eliminating air bubbles.
- Immediately laminate another 3 MATs of 300g/m², wet on wet and roll.
- Allow the resin to harden.
- Laminate a second layer with 4 MATs 450g/m² and wait for the resin to harden again.
- Continue laminating with 4 MATs at a time until the design thickness is obtained.

Lamination Spray Lay-Up (without skincoat):

- On the hardened gelcoat/or skincoat apply a thin layer of hardened RS2030.
- Spray the first millimeter of cut-spray, carefully eliminating air bubbles.
- Immediately spray another 3 mm with crossed hands, wet on wet and roll.
- Allow the resin to harden.
- Continue laminating with 6mm of cut and spray at a time until the design thickness is achieved.

Application notes:

Mix the product in its package very well before use.

The best results are obtained by working at temperatures between 20°C and 25°C.

RS2030 is characterized by a stickiness that remains for about 48 hours after its application; this feature allows the layering of the next laminate without having to proceed with the sanding of the first laminate previously applied.

It is therefore recommended to clean and sand the laminate surfaces in case of long intervals (over 48 hours) of overlamination, or when it is already dry before that period (ex. During high temperatures period) and to remove all the glass threads.

To contain the exothermic peak in the presence of temperatures between 25 and 30°C, or if you want to obtain laminates with a high thickness over 10mm, the use of the MCP-75 hardener (Cumene Peroxide + MEKP).

To obtain low impregnation ratios and increase the resistance of the laminates, the use of spiked rollers with orthogonal blades is required.

In its original packaging, the product can be used for **6 months** if stored indoor away from direct sunlight, at temperatures not exceeding 20°C.

TYPICAL SPECIFICATIONS OF THE LIQUID PRODUCT

Tests made at 23°C	Value	Unit	Method
Color	Beige	-	IMIA-01
Density	1,45 ± 0,05	Kg/l	IMIA-02
Solid content	78 ± 2	%	IMIA-03
Viscosity (Brookfield RV, T03, 20rpm)	1500 - 2500	cP	IMIA-10
Reactivity (100g product + 1,50g CT21/MEKP 50%)	35 ± 5	min	IMIA-15
Exothermic peak	95 ± 5	°C	IMIA-15

TYPICAL CHARACTERISTICS OF THE CURED PRODUCT (*)

Tests made at 23°C	Value	Unit	Method
Color of the cured product	Beige	-	IMIA-01
Superficial hardness	45 ± 5	Barcol	IMIA-29
Thermo-mechanical resistance:			
HDT	65 ± 5	°C	IMIA-50
Tg	85 ± 5	°C	ASTM D3418
Linear shrinkage	< 0,8	%	IMIA-25
Elongation at break	1,2 – 1,4	%	ASTM D638 (**)
Tensile strength	85 - 90	MPa	ASTM D638 (**)
Tensile modulus	8,5 – 9,0	GPa	ASTM D638 (**)
Flexural strength	160 – 180	MPa	ASTM D790 (**)
Flexural modulus	8,0 – 8,5	GPa	ASTM D790 (**)

(*) Curing cycle: 24 hours at 23°C and 3 hours at 80°C

(**) resin reinforced with 20% by weight of glass fiber (MAT 450g/m²)

The information and data contained in this technical sheet are based on the measurements and experience gained; in good faith, they are made available to the customer who is responsible for the application verification and the definition of suitability for the intended use.

INTEC assumes no responsibility for the results obtained in the specific application made by the user.

Last update: January 2025

Revision: 3



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