

Acrylic Resins

Technical Information

High quality laminating resins for processing glass and carbon fibres.

Application: Production of fibre-reinforced parts, sealing of porous materials, bonding of wood and PUR rigid foam.

Information on Components:

Storage: Temperature: 15-20°C
Important: Before processing, ensure that the material temperature is 20°C.
Shelf life is atleast 12 months.

Sizes: 4.6Kg & 900g

Product Features:

- Acrylic resins are produced from methyl methacrylate (MMA) and dissolved polymethyl methacrylate (PMMA), adjusted for specific applications. For hardening (polymerisation), a hardener is necessary (Hardening Paste Red or White or the Hardening Powder 50).
- Increasing the temperature will decrease pot life and hardening time.
- Decreasing the temperature will increase pot life and hardening time.
- By variation of hardener quantity (within the required limits), pot life and hardening time can be influenced but not the features of the formed parts. Variation of hardener quantity outside the required limits may result in poor production.
- The hardening process will produce an exothermic reaction (heat will be produced).
- Heat production will increase with material thickness, while pot life and hardening time decreases. This reaction can be compensated for by adjusting the hardener quantity.
- The hardened parts are thermoplastic, and the possibility of later remodelling should be taken into account while choosing and processing the reinforcement material.
- Acrylic Resins can be coloured with our colour paste however the colour black should be avoided due to the high soot content which can cause hardening problems.
- Acrylic Hardeners are mixable with each other.
- Acrylic Hardeners can be thinned with thinners.

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Process While Laminating:

1. Weigh out the required amount of resin.
2. If required, 1-2% colour paste is added and stirred thoroughly.
3. The hardener is weighed out or measured with a measuring spoon (Hardener Powder 50) and then mixed thoroughly with the resin.
4. Within a short space of time any mixed in air will escape automatically. Now the mixture can be processed.
5. The hardening starts at the point of the highest resin concentration and expands to the other areas.
6. Before demoulding, check that the laminate is completely cured.

Process of Bonding/Sealing:

1. Sealing Resin hardens under unfavourable circumstances if using a thin layer. If in doubt a pre-test is recommended.
2. Weigh out the required amount of resin.
3. The hardener is weighed out or measured with a measuring spoon (Hardener Powder 50) and then mixed thoroughly with the resin.
4. The resin is spread on the respective surfaces using a brush or wooden spatula.
5. For the following applications a sealing paste is recommended (this is the same as the Sealing Resin with the consistency of a gel):
 - Sealing of absorbant and permeable surfaces (e.g. leather)
 - Bonding, where hollow spaces need to be filled out.
 - Bonding on vertical surfaces

When using the Sealing Paste we recommend Hardening Paste Red or White instead of Hardening Powder 50.

Comparison of the Different Resin Types

Resin Type	80:20	Carbon	Plastic	Sealing
Size	4Kg: (TK1210) 900g: (TK1208)	4Kg: (TK1222) 900g: (TK1220)	4Kg: (TK1218) 900g: (TK1216)	4Kg: (TK1214) 900g: (TK1212)
Characterisation	Hard, de-embrittled lamination resin.	Hard, de-embrittled lamination resin, very fluid.	Flexible lamination resin.	Glass-hard resin with very good bonding features.
Application	Solid laminate.	Solid laminate, preferable in combination with carbon-fibre in the vacuum process.	Flexible laminate, mixture of 80:20 & Carbon resins.	Bonding, sealing solid laminate.
Viscosity in mPas	500	400	900	500
Hardener addition in parts by weight	1-3	1-3	1-3	1-3
Pot life in min*	22	12	15	8
Gelification after min*	30	14	19	10
Hardened after min*	38	20	27	15

*at 20°C and the addition of three parts by weight Hardening Powder 50, resin mixture 100g. The times that apply for laminate will be a little longer due to the low resin concentration.