

Advanced Materials**XD 4616 Resin with XD 4616 Hardener**

TOOLING PASTE

MACHINE APPLIED, HIGH STRENGTH EPOXY PASTE FOR MAKING TOOLS

KEY PROPERTIES

- Produces a smooth, fine surface
- Quick model build up via high output automated equipment
- 80°C heat resistance
- High mechanical strength
- Up to 30mm thickness layer in one single application
- Low levels of exotherm
- Virtually odourless during application and cutting
- Room temperature curing, machinable after 1 day
- Post cure for optimum thermal and mechanical performance
- Easily machined formulation, producing a fine, seamless surface

APPLICATIONS

- Production of models and moulds

PRODUCT DATA

Property	Unit	XD 4616 Resin	XD 4616 Hardener
Appearance Colour	visual	Grey	Off-white
Density	g/cm ³	1.2-1.25	1.2-1.25

PROCESSING

Mix ratio	Parts by weight	Parts by volume
XD 4616 Resin	100	100
XD 4616 Hardener	100	100

Ensure substructure is strong, stable, clean and free of loose material.
Apply paste as a single layer up to 40mm in thickness using equipment.
Allow to cure for at least 24 hours at room temperature before machining
If the tool is to be used at elevated temperature, post cure stepwise up to that temperature before milling

**TYPICAL
PROPERTIES**

Resin/Hardener mix:	Volume	Unit	XD 4616 Resin + Hardener
Appearance			Grey
Pot life at 25°C	1000 ml	min	15
Max. Layer thickness		mm	40
Machinable after		day	1-2

Cure: 7 days RT (8 hours at 80°C)

Density	ISO 1183	g/cm ³	1.25-1.3
Hardness	ISO 868	Shore D	75-80
Coefficient of thermal expansion	ISO 11359	10 ⁻⁶ k ⁻¹	80-85
Tg	TMA	°C	56 (85)
Deflection temperature	ISO 75	°C	(72)
Compressive strength	ISO 604	MPa	42 (58)
Compressive modulus	ISO 604	MPa	1780 (2280)
Flexural strength	ISO 178	MPa	25 (37)
Linear shrinkage*		mm/m	0.5
*Test sample 1000 x 60 x 40mm, released			

STORAGE

The resin and hardeners described in this instruction sheet have the expiry date indicated on the container label, provided they are stored at 18 – 25°C in a dry place and in sealed containers, preferably those in which they are supplied.

PACKAGING

System	XD 4616 Resin	XD 4616 Hardener
Pack size (kg)	50 200	50 200

**HANDLING
PRECAUTIONS****Caution**

Our products are generally quite harmless to handle provided that certain precautions normally taken when handling chemicals are observed. The uncured materials must not, for instance, be allowed to come into contact with foodstuffs or food utensils, and measures should be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The wearing of impervious rubber or plastic gloves will normally be necessary; likewise the use of eye protection. The skin should be thoroughly cleansed at the end of each working period by washing with soap and warm water. The use of solvents is to be avoided. Disposable paper - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. These precautions are described in greater detail in the Material Safety Data sheets for the individual products and should be referred to for fuller information.

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