

Advanced Materials**RenPaste™ 4666 Resin / Ren® 4666 Hardener**

SEAMLESS MODELLING PASTE
MACHINE APPLIED EPOXY MODELLING PASTE

**KEY
PROPERTIES**

- Low viscosity components for easy pumping
- Coloured components to indicate mix quality
- Special mix rheology to enable application from 10mm to 40mm thickness
- Virtually odourless during application and cutting
- Rapid cure, but formulated for low exotherm
- Room temperature curing: machinable after 1 day
- Excellent adhesion to clean EPS (expanded polystyrene): pre-treatment not necessary
- Rapid, easy machining formulation, with low noise and dust free shavings
- Fine, seamless surface after machining/ sanding
- Low shrinkage combined with excellent dimensional stability

APPLICATIONS

- Production of seamless plugs and models
- Manufacture of short production-run moulds

**PRODUCT
DATA**

Property	Unit	RenPaste™ 4666 Resin	Ren® 4666 Hardener
Appearance Colour	visual	Paste Dark Grey	Paste White
Density at 23°C (ISO 1183-1)	g/cm ³	0.90-1.00**	0.90-1.00**

**Specified data are on a regular basis analysed. Data which is described in this document as 'typical' is not analysed on a regular basis and is given for information purposes only. Data values are not guaranteed or warranted unless if specifically mentioned.

TYPICAL SYSTEM DATA**PROCESSING**

Mix ratio	Parts by weight	Parts by volume
RenPaste™ 4666 Resin	100	100
Ren® 4666 Hardener	100	100

- It is strongly recommended to apply the paste using a pumping/ dosing machine equipped with screw pumps and a dynamic mixer head. It has been found that static type mixers may not give a homogenous mix quality.
- Apply paste as a single layer up to 40mm in thickness onto a clean, stable substrate (typically 30kg/m³ expanded polystyrene).
- Allow to cure for at least 24 hours at room temperature before machining.

For further guidelines, refer to the RenPaste™ Seamless Modelling Paste application literature.

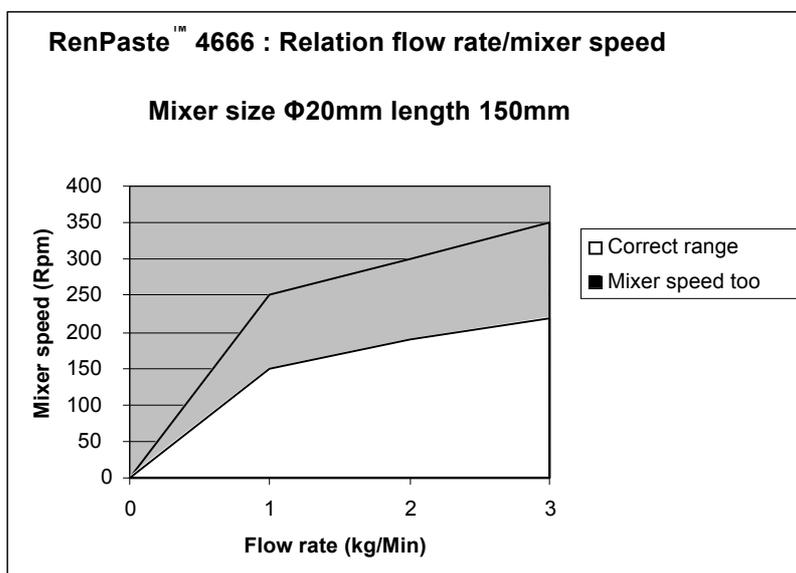
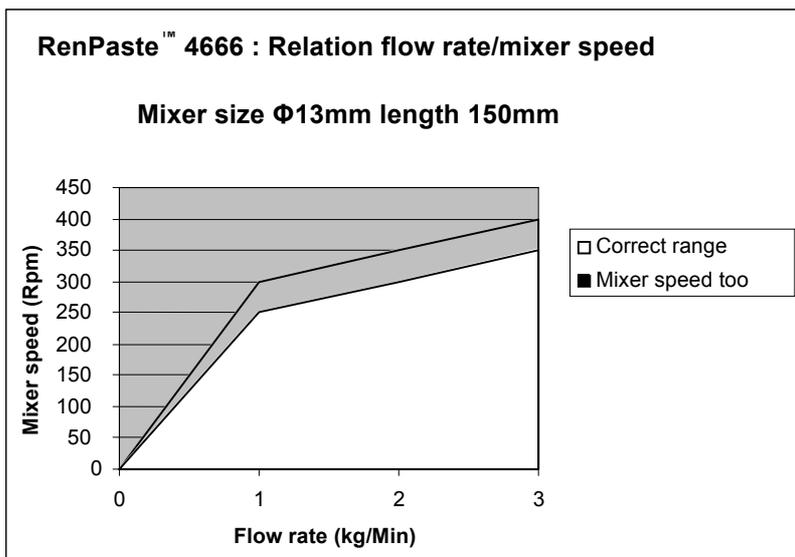
DYNAMIC MIXER SPEED

RenPaste™ 4666 is designed to be used with a dynamic type mixer (rotary mixer element). In addition, the rheology (dynamic viscosity) of the product may be altered by regulation of the mixer speed.

Regulation of the mixer speed allows operators to select from a fluid paste to a thick, highly thixotropic product according to the application requirements.

In order to have a fully mixed paste free from application problems, it is recommended to regulate the mixer within certain limits. The exact speed required will depend on the mixer length, diameter and the flow rate of the paste through the mixer.

- Paste too thin (fluid) : Increase mixer speed
- Paste too thick (viscous) : Decrease mixer speed



**TYPICAL
PROPERTIES**

Resin/ Hardener mix:	Volume	Unit	1:1 Mix Pbw
Appearance			Light Grey
Pot life at 25°C	1000 ml	min	15-20
Max. Layer thickness		mm	40
Machinable after		Hours	24

After cure: 7 days at Room Temperature (23°C)

Density	ISO 1183	g/cm ³	0.90-1.0
Hardness	ISO 868	Shore D	60-65
Coefficient of thermal expansion	ISO 11359	10 ⁻⁶ k ⁻¹	75-80
Glass transition temperature	TMA	°C	56
Compressive strength	ISO 604	MPa	20
Compressive modulus		MPa	1135
Flexural strength	ISO 178	MPa	19
Flexural modulus		MPa	1200
Elongation at break		%	2.2
Linear shrinkage*		mm/m	0.4

*Test sample 500x80x30mm, released.

Heat Deflection Temperature (HDT)

Cure 7 days RT (23°C)	ISO 75B	°C	52
RT cure + 8 hours 40°C			58
RT cure + 8 hours 60°C			72
RT cure + 8 hours 80°C			82

STORAGE

Provided that RenPaste™ 4666 Resin and Ren® 4666 Hardener are stored in a dry place in their original, properly closed containers at the storage temperatures mentioned in the MSDS they will have the shelf lives indicated on the labels. Partly emptied containers should be closed immediately after use.

In general Seamless Modeling Pastes should be processed at a minimum temperature of 18°C. Be aware that during winter time it is necessary to store the material at least for one week at 18-20°C before use to assure a complete similar material temperature!

PACKAGING

System	RenPaste™ 4666 Resin	Ren® 4666 Hardener
Pack size (kg)	40 150	40 150

**HANDLING
PRECAUTIONS****Caution**

Our products are generally quite harmless in use provided that normal chemical handling precautions 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 direct contact of the uncured materials with the skin, since people with particularly sensitive skin may be affected. Eye protection and latex or nitrile gloves should be worn when handling the product. The skin should be thoroughly cleansed at the end of each working period using soap and warm water. The use of solvents for skin cleaning 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 individual Material Safety Data Sheets and should be referred to before using the products.

Huntsman Advanced Materials

(Switzerland) GmbH
Klybeckstrasse 200
4057 Basel
Switzerland

Tel: +41 (0)61 299 11 11
Fax: +41 (0)61 299 11 12

www.huntsman.com/advanced_materials
Email: advanced_materials@huntsman.com



Huntsman Advanced Materials warrants only that its products meet the specifications agreed with the user. Specified data are analysed on a regular basis. Data which is described in this document as 'typical' or 'guideline' is not analysed on a regular basis and is given for information purposes only. Data values are not guaranteed or warranted unless if specifically mentioned.

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