

PU 3607

**CHEMICAL
BASE:**

PU

GEL TIME:

15 MIN

COLOUR:

WATER CLEAR

HARDNESS:

80 A

VISCOSITY:

LIQUID

PU 3607 reacts with Part B to form water-clear and UV resistant polyurethane elastomer.

PRODUCT DATA

PROPERTIES	COMPONENT A	COMPONENT B	MIXED
Chemical base	Polyol	HDI	Polyurethane
Mixing ratio by volume	1,03	1,00	
Mixing ratio by weight	1,00	1,00	
Colour	Colourless	Colourless	Colourless
Appearance	Liquid	Liquid	Liquid
Viscosity (mPa*s)	300	3.000	1.650
Specific weight	1,04	1,07	1,05
Application temperature (°C)			+10 / +30
Gel time (100 g @ 20 °C)			15 min
Demould time (100 g @ 20 °C)			60 min
Full cure (100 g @ 20 °C)			120 min
Temperature of exothermic reaction (°C)			30
Hardness (Shore)			80 A
Elongation (%)			70%
Service Temperature (°C)			-40 / +90
Shelf life (month)			12
Storage temperature (°C)			+20 / +30



APPLICATIONS

PU 3607 has been formulated for casting components with high clarity and low colour in thickness 5 mm to 20 mm. In addition the long pot life of the mixed system allows it to be fully degassed and poured carefully producing substantially bubble free casting.

Ensure moulds are made of a suitable material to withstand the cure temperature. If in doubt contact Peters italia.

PLEASE NOTE: The figures above are for guidance only as the mass of material mixed also has a bearing on which grade to select. These products can become very warm during cure. It is very important that the correct grade be used for the section to be cast. If in doubt use a grade that is for a thicker section than the section to be cast and complete the cure with a postcure.



MIX RATIOS

The components should be measured to an accuracy of 2% or better. Care should be taking when measuring by volume as this is an inherently inaccurate method unless specific volumetric measuring equipment is used.



PREPARATION OF THE COMPONENTS

None of the component requires preparation before use.

The components may be mixed and cast at room temperature and require no pre-warming prior to use. If the mould needs to be pre-warmed details will be given in the PREPARATION OF MOULDS section. If the product requires a postcure details will be given in the METHOD OF USE section.



PREPARATION OF MOULDS

Moulds should be clean and dry and generally a good quality release agent should be used and allowed to dry fully. For details of suitable release agents please contact Peters Italia.

Moulds should require no pre-warming, though if ambient conditions are particularly cold, or thin sections are to be cast, then warming to a temperature of 15-25°C will assist the cure of thin sections and avoid differential shrinkage between the core and the edges of the moulding. Be aware that cold temperatures will result in longer cure and demould times.

In addition metal moulds should be warmed to 20-30°C to avoid chilling the polyurethane in contact with the mould surface, as this will result in extended demould time and may cause differential shrinkage, and surface defect problems.



WEIGHING

The components should be weighed on equipment capable of an accuracy of $\pm 2\%$ or better. The larger quantity (usually polyol or resin component) should be weighed into a vessel of sufficient capacity to accommodate the entire mix and allow room for mixing, and degassing if required.

All components should be weighed directly into the one vessel. Do not weigh each component into a separate vessel and then combine them, as this will not give the desired mix ratio due to losses and wastage in each container. In turn this will lead to cure problems such as incorrect cure time or hardness.



MIXING

The components should be mixed together thoroughly by hand use a flat blade such as a palette knife or with a Jiffy type mixer if using a drill. The mixing should be carried out with care to avoid the inclusion of air and also to ensure that material on the sides and bottom of the vessel is removed and mixed in.

To avoid patches of unmixed components in the finished product the mixed material may then be transferred to a second container and mixed again.



DEGASSING

If degassing is required it should be done immediately after mixing. It is important to remember that degassing is only possible if the material has a sufficiently long pot life or gel time to allow for mixing, degassing and pouring.

The degassing chamber should be large enough to accommodate the mixing vessel and the vacuum pump should ideally be able to create sufficient vacuum in the chamber to start degassing within one minute. Once the violent bubbling ceases degassing is complete for most applications. However, for entirely bubble-free castings, it is recommended that the product be mixed again and the degassing repeated to remove as much air as possible.

Please note that increasing the quantity of mix or working at higher ambient temperatures (eg. in the summer) can reduce the pot life of the material. Where possible trials should be carried out to establish these parameters.



POURING

Care during pouring is essential to avoid entrapped air. Pour the material slowly allowing it to flow gently over the mould surface and to fill cavities and channels from the bottom up.

Take care not to scrape the sides of the mixing vessel to remove the last of the product. This very frequently results in streaks of under-mixed product in the finished casting, which can be clearly seen. A good practice is to transfer the mixed product into a second container, mix again and degass before pouring.



POSTCURE

This material will cure satisfactorily at ambient temperatures. Whilst the material can be demoulded after about 3 hour, full strength and hardness will develop after 24 hours.

Postcuring the material for 8-12 hours at 40-50°C will improve the physical properties to some extent and will reduce the time of full cure. This is best carried out in the mould.



HANDLING AND STORAGE

The relevant Safety Data Sheets should be read carefully before using this material.

Good housekeeping is important with this material as with all chemicals. Spillages should be wiped up immediately and containers wiped clean after use.

The components should be stored in their original containers in a dry place at +20 / +30 °C, away from sparks and heat sources.

Both components have a minimum shelf life of 12 months from the date of manufacture when stored correctly in unopened containers.



HEALTH AND SAFETY

The Safety Data Sheet provides information on the health and safety aspects of this material. Please contact Peters Italia. if you do not have a Safety Data Sheet for each of the components of this material.

The PU 3607 Part A component is not classified according to the requirements of the CHIP regulations. However care should be taken to avoid direct contact and gloves, goggles and impervious overalls should be worn.

The Part B isocyanate is classified as TOXIC by inhalation. In addition it may cause sensitisation by inhalation and skin contact and is classified as IRRITANT to eyes, respiratory system and skin. At room temperature the vapour hazard is low but care should be taken not to allow vapours to accumulate. This is especially likely if the product is heated. Avoid direct contact with skin and eyes by means of gloves, goggles and impervious overalls.



NOTE

The information, and, in particular, the recommendations relating to the application and end-use of Peters Italia's products, are given in good faith based on Peters Italia current knowledge and experience of the products when properly stored, handled and applied under normal conditions.

We cannot assume responsibility for the results obtained by others over whose methods we have no control.

It is the user's responsibility to determine suitability for the user's purpose of any production method mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof.

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Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.