



RTV410, RTV420, RTV428

Beta 7 & Beta 8

Versatile, High Strength, Low Viscosity Mouldmaking Materials.

Product Description

The RTV410, RTV420 and RTV428 are condensation cure mould-making materials that cure with Beta 7 or Beta 8 catalysts at room temperature to a high strength, flexible rubber. The RTV grades differ in mechanical properties, which allows users to select the optimum product that suits the individual needs.

Beta 7 is the general purpose catalyst.

Beta 8 is used for applications that require fast demoulding.

Key Performance Properties

- High tear resistance
- Long service life
- Chemical resistance
- Easy mould release
- Compatible with most moulding materials
- Excellent detail reproduction
- Room temperature cure
- Broad product range to suit individual needs

Applications

The RTV410, RTV420 and RTV428 condensation cure products have good flow, high flexibility and high tear strength ensuring good detail reproduction and long service life. When long work life is preferred Beta 7 is the catalyst of choice. Beta 8 is recommended for applications that require a fast demoulding time.

RTV410, RTV420 and RTV428 have excellent compatibility with most types of master pattern materials including rubber, wood, metal, clay and plastics as well as with reproduction materials as polyesters, epoxy, polyurethane, low melt alloys, wax, plaster, concrete and many other composite products.

The variation in hardness, viscosity, elongation, work life and demoulding time makes it possible for the user to select the optimal product that suits the user's needs. The RTV410, RTV420 and RTV428 compounds are recommended for use in mouldmaking applications where extreme flexibility is required such as soft printing pads for ink transfer, patterns for one piece moulding and skin moulding.

**Typical
Product
Data**

Typical uncured properties:

Base Compounds		RTV 410	RTV 420	RTV 428
Colour		Off White	Off White	Off White
Density	g/cm ³	1.28	1.24	1.30
Viscosity <i>Brookfield</i>	mPa-s	25.000	30.000	35.000
		Catalysts		
Property		Beta 7	Beta 8	
Colour		Translucent	Translucent	
Specific Gravity	g/cm ³	0.96	0.96	
Viscosity <i>Brookfield</i>	mPa-s	28	28	
Mix ratio RTV 4xx : Beta		100 : 5	100 : 2.5	

Typical mixed properties:

Mix ratio's by weight: RTV : Beta 7 is 100 : 5. RTV : Beta 8 is 100 : 2.5

Property	Beta	RTV410	RTV420	RTV428
Pot life (min)	7	75	75	75
Pot life (min)	8	10	10	10
Cure time (hrs)	7	24	24	24
Cure time (hrs)	8	4	4	4

Typical cured properties:

Cured with beta 7 at mix ratio 100:5. Data obtained on 2 mm sheet after 24 hr RT cure. Properties with Beta 8 will be comparable.

Property	RTV 410	RTV 420	RTV 428
Hardness (Shore A)	10	20	28
Tensile strength, MPa	2.6	3.3	3.2
Elongation @break, %	750	600	450
Tear Strength (N/mm)	15	22	22
Linear shrinkage (%)	0.6	0.6	0.6

Specifications

Typical product data values should not be used as specifications. Assistance and specifications are available by contacting GE Bayer Silicones Technical Service RTV1/RTV2.

Instructions for Use

It is recommended to homogeneously mix the base compounds before use.

Mixing:

Select a mixing container 4-5 times larger than the total volume of material to be mixed. Weigh out the selected RTV and beta catalyst. Stir for several minutes scraping the sides and bottom of the container carefully to produce a homogeneous mixture. When using power mixers, avoid excessive speeds, which could entrap large amounts of air or cause overheating of the mixture, resulting in shorter pot life.

The air entrapped in the mixing step needs to be removed to eliminate voids in the cure product. This can be done by exposing the material to a vacuum of 10-20 mbar. The material will expand, crest and reduce to about the original level. Degassing is usually complete about two minutes after frothing ceases.

Automatic equipment designed to meter, mix and dispense a two-component silicone liquid elastomer will add convenience to continuous large scale operations.

Curing:

After mixing the selected RTV/Beta combination, the material will cure at room temperature. Selection of the Beta will determine cure speed, the work life as well as the demoulding time.

The system is sensitive to changes in heat and humidity and therefore variations in cure speed may be seen if one or both variables are changed.

Handling and Safety

Material Safety Data Sheets are available upon request from GE BAYER SILICONES. Similar information for solvents and other chemicals used with the GE BAYER products should be obtained from your supplier. When solvents are used, proper safety precautions must be observed.

Storage and Warranty Period

The warranted shelf life will be indicated by the 'use before date' on the associated documents with a minimum of 4 months when stored in the original unopened containers below 27° C.

Availability

RTV410, RTV420 and RTV428 all are available in pails of 5 and 20 kg as well as in drums of 200 kg.

Beta 7 is available in bottles of 50 and 250 ml as well as in containers of 1 and 10 kg.

Beta 8 is available in a bottle of 500 ml.

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