

GENSIL 112E/65

Release Agent

Oct 2005

TECHNICAL DATA SHEET

Description

GENSIL 112E/65 is the most popular all round release agent. This emulsion is used almost universally by the rubber industry as a parting agent in the moulding of natural and synthetic rubber. It is odourless, non-toxic, non-poisonous and can be safely used with any system.

Typical Properties

Typical properties of the silicone component of **GENSIL 112E/65** are as follows:

■ Appearance	White liquid
■ Solids	65% ± 1%
■ pH	7.0 ± 0.5
■ Surface Tension	48 dynes/cm ² @20°C

Typical Applications

GENSIL 112E/65 is usually diluted with water for use and is very stable under adverse storage conditions, extreme temperatures and hard water. It has a very fine particle size which give moulded parts a superior surface finish. Examples of common applications are as follows:

■ **TYRE MOULDS** - **GENSIL 112E/65** diluted with water to give 1 ± 0.5% solids is widely used as a mould release agent. The exact concentration of the spray depends on the nature of the tread stock, design complexity and curing time. The minimum amount of diluted **GENSIL 112E/65** needed to give easy release and high surface finish should be applied between each heat. Excessive **GENSIL 112E/65** may cause puddling and spoilt surfaces.

■ **CURING BAGS** - **GENSIL 112E/65** diluted with water to give 1% solids can be used to lubricate curing bags. Some rubber companies prefer to mix equal quantities of glycerine or glycerine substitute with one part **GENSIL 112E/65** before adding the silicone. The amount of glycerine and the **GENSIL 112E/65** concentration varies widely depending on the equipment, bag composition and application method where lubrication can be carried out by dipping, rolling through a trough or by spraying.

■ **MECHANICAL RUBBER GOODS** - **GENSIL 112E/65** diluted with water to give 1 ± 0.5% solids can be used as a lubricant for moulding mechanical rubber goods. Concentrations used vary depending on



mould complexity, kind of stock and curing time. A uniform thin silicone coating is sufficient to prevent adhesion, reduce scrap, improve surface finish and keep moulds clean.

■ **SOLES AND HEELS - GENSIL 112E/65** diluted with water to give 0.5 to 1% solids can be applied using a spray gun to moulds to allow easy clean release of heels and sole stock. The concentration used depends on the nature and loading of the compounds and mould design.

■ **FLOOR TILES - GENSIL 112E/65** can be diluted with water and used in moulding rubber and asphalt floor tiles. The mould is sprayed or the calendered stock wiped with the diluted emulsion. The concentration used must be determined by trials as application methods and stock composition can vary greatly.

■ **IMPARTING GLOSS - GENSIL 112E/65** diluted with water to give 5% solids can be sprayed onto rubber products to give a pleasing effective gloss.

■ **EXTRUSION LUBRICATION - GENSIL 112E/65** diluted with water can be used as an extrusion lubricant in the Plastics and Rubber industries with 0.5% solids is the recommended starting dilution.

Methods of Use

GENSIL 112E/65 should be handled as follows:

- The Material Safety Data sheet should be consulted before use.
- The product must be stirred well before use as separation may occur during storage.
- **Always add water to GENSIL 112E/65. NEVER add GENSIL 112E/65 to water.**
- Always dilute **GENSIL 112E/65** with distilled, deionised or clean soft water before use by adding the water gradually to the emulsion and mixing it thoroughly using low shear equipment or by manual stirring.
- The optimum dilution of **GENSIL 112E/65** is dependant on the shape and composition of the moulding. 0.3% silicone is recommended as a basis for trials after which it may be possible to use a greater dilution.
- The diluted mix can be easily gravity fed from a central overhead tank fitted with a slow turning paddle.
- Galvanised tanks or pipes should not be used and high speed agitators or centrifugal pumps should be avoided.
- The use of distilled, deionised or clean soft water retains the stability of the emulsion and avoids the addition of unwanted mineral salts which may precipitate out on intricate mouldings.
- Diluted **GENSIL 112E/65** can be applied by brush, swab or spray where a spray gun adjusted to give a mist is recommended. The water evaporates at moulding temperatures leaving a non-volatile silicone film on the mould surface which will remain effective for several mouldings. It will not flake off or powder.



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Health & Safety

Health and safety can be protected by:

- Avoid ingestion and prolonged or repeated contact with skin.
- If contact with eyes occurs, wash eyes with copious quantities of water and consult a doctor if irritation persists.
- The Material Data Sheet defining the known hazards and describing the appropriate safety precautions with respect to the product is available from Rhodia New Zealand Limited.

Availability

GENSIL 112E/65 is manufactured in New Zealand by Rhodia New Zealand Limited. It is available in 20 kg plastic jerrycans and 200 kg plastic drums.

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