

# GUMOSIL<sup>®</sup> AD-4

Two-component silicone rubber for making moulds and reproduction.

## CHARACTERISTICS

Gumosil<sup>®</sup> AD-4 is a two-component silicone rubber with increased hardness and strength. Cures under the influence of Gumosil<sup>®</sup> AD-4/B catalyst at room temperature in the addition system.

## TECHNICAL DATA

PARAMETERS	Gumosil <sup>®</sup> AD-4/A	Gumosil <sup>®</sup> AD-4/B
Appearance	viscous liquid	viscous liquid
Colour	beige	black
Density at 20°C	1,20 g/cm <sup>3</sup>	1,10 g/cm <sup>3</sup>
Viscosity at 25°C	110 000 cP	5 000 cP
<b>Properties of the mixture after mixing the ingredients 100 parts by weight of Gumosil<sup>®</sup> AD-4/A and 10 weight parts of Gumosil<sup>®</sup> AD-4/B catalyst</b>		
Colour	grey	
Viscosity at 25°C	70 000 cP	
Pot life at 23°C and humidity of min. 35%	min. 30 minutes	
Curing time at 23°C and humidity min. 35%	max 18h	
<b>Rubber parameters after seasoning at room temperature for at least 72 hours from the moment of hardening</b>		
Thermal resistance	200°C	
Hardness	60° ShA	
Elongation at break	210 %	
Linear shrinkage (after 7 days of seasoning)	0,1 %	
Tensile strenght	6,0 MPa	
Tear resistance	15,0 kN/m	

## APPLICATION

Gumosil<sup>®</sup> AD-4 is a non-shrink rubber used for the production of molds with very high tensile and tear strength. It is especially recommended for making molds intended for the reproduction of large elements of concrete, plaster, chemically hardened resins (polyester, epoxy, polyurethane foams). It is perfect for mass production of facade tiles and concrete accessories, accurately reproduces the structure and shape of the model. It can be used both for the production of simple and complex molds.

## MATERIALS FOR REPRODUCTION

In the silicon moulds, many synthetic and natural materials can be cast and these include naturals or synthetic wax, concrete with fillers, plaster, decorative plasters works, and resins: filled polyester or epoxy.

## PROCESSING/CATALYSIS

Mix rubber with a **catalyst Gumosil<sup>®</sup> AD-4/B** in adequate proportions in a mechanical or manual manner. The catalyst must be evenly distributed throughout the mass, since this depends on the quality of the moulds. It is recommended to vent the composition prior to pouring in order to remove the air bubbles closed during the operation of mixing the ingredients. To do this, place the composition in a

container with a capacity of approx. 5 times greater than the volume of aerated mixture and vent in the vacuum chamber under pressure of approx. 0.06 bars until all air has been removed, i.e. approx. 3-5 minutes. The venting process affects the increase of the mechanical resistance of elastomers.

## VISCOSITY AND HARDNESS REGULATIONS

Gumosil<sup>®</sup>AD-4 can be diluted by adding up to 10% of silicone fluid Polsil<sup>®</sup> OM-50 or Polsil<sup>®</sup> OM-100 what slightly reduce the viscosity and hardness after crosslinking.

## CURING (CROSSLINKING)

Rubber of Gumosil<sup>®</sup> AD-4 type cures at room temperature under the influence of the catalyst Gumosil<sup>®</sup>AD-4/B during 18 hours using 10 parts by weight of the catalyst. This time can be shortened by increasing the mold ambient temperature. The speed of hardening then depends on the dimensions of the mold. Too high temperature increase (above 75°C) may cause slight linear shrinkage of the rubber.

## **CAUTION!**

*Contact with certain materials can increase the time or even retard the curing of the rubber (inhibition)*

effect), therefore, if in doubt, make an attempt to pour the mixture into a small section of the surface.

Typical inhibitors:

- natural vulcanized rubber with Sulphur,
- stabilizing agents PVC,
- polycondensation silicones RTV cured with metal salts,
- epoxy resins crosslinked with amine curing agent,
- plasticine containing sulphur additives.

#### PREPARATION OF THE MODEL

Silicone rubber moulds recreate from the original model everything very precisely, even fine dust particles, therefore, the model should be absolutely clean and free from dust and foreign objects. Rubbers recommended for forms production show the non-stick properties for most of the materials. In order to avoid "adhesion" of the rubber to the model's surface, it is recommended to cover the model's surface with the anti-adhesive agent using such as Vaseline, wax, paraffin etc. However, check if the separating agent does not damage the original model. To prevent adhesion of the poured composition to the form, it is recommended to protect the moulds with the separating agent Polsilform<sup>®</sup> from our company. The use of Polsilform<sup>®</sup> enables easier stripping and also extends the life of the moulds. (Note! Do not use where casting is intended to be painted).

#### CONNECTING THE COMPONENTS MADE OF RUBBER

Rubber parts can be joined or repaired with the same kind of rubber (e.g. cavities) or with silicone adhesive (e.g. tears) **Polastosil<sup>®</sup> AC-4A**. To

connect parts of forms made of different types of rubber only Polastosil<sup>®</sup>AC-4A adhesive should be used.

#### THIXOTROPIC ADDITIVES (for production of brush moulding)

In order to regulate the rubbers' liquidity, thixotropic agent Gumosil<sup>®</sup> AD/C should be used in the amount of 0,2 parts by weight to 100 parts by weight of the rubber.

#### ATTENTION! Gumosil<sup>®</sup> AD/C should be added to the rubber previously mixed with Gumosil<sup>®</sup> AD-4/B catalyst.

Gumosil<sup>®</sup> AD/C is used in the production of "brush" molds made of addition-hardened silicone rubbers. The agent gives the composition a highly non-liquid character, which allows it to be applied with a paint brush or spatula to a layer thickness of approx. 10 mm. and "removing" forms from vertical models. For large-size models, it is recommended to prepare the rubber with the addition of Gumosil<sup>®</sup> AD/C in portions enabling their application within 10-15 minutes.

#### STORAGE:

Store in original packaging, in dry rooms, at temp. up to +30°C.

#### WARRANTY PERIOD:

12 months from production date.

#### PACKAGING:

1, 5, 15, 50 kg.

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#### Producer's notes:

The information contained in this document is given in good faith based on our current knowledge. However, this shall not constitute a guarantee for any specific product features. Each user bears the full responsibility for making its own determination as to the suitability of product for its own particular purpose. Because actual use of product by the user is beyond our control, such use is within the exclusive responsibility of the user, and we cannot be held responsible for any loss incurred through incorrect or faulty use of the product. For more detailed information please contact us in writing or by phone.



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