

GUMOSIL® AD-1S

Two-component silicone rubber for making moulds in food industry.

CHARACTERISTICS

GUMOSIL® AD-1S is used for the mould production in the food industry. Gumosil® AD-1S is a two-component silicone rubber curing at room temperature under the influence of the crosslinking catalyst in the additive system. After crosslinking, we obtain elastic moulds with very good strength parameters, accurately reproducing the model texture (minimum linear shrinkage) and with a good thermal resistance. It withstands long-term heating at temperature up to 150°C and short-term up to 180°C.

TECHNICAL DATA

PARAMETERS	Gumosil® AD-1S/A	Gumosil® AD-1S/B
Appearance	viscous liquid	viscous liquid
Colour	transparent	white
Density at 20°C	1,10 g/cm ³	1,10 g/cm ³
Viscosity at 25°C	30 000 cP	8 000 cP
Properties of the mixture after mixing the ingredients 100 parts by weight of Gumosilu AD-1S/A and 10 weight parts of Gumosil AD-1S/B catalyst		
Colour	white	
Viscosity at 25°C	ca. 20 000 cP	
Pot life at 23°C and humidity of min. 35%	min. 30 minutes	
Curing time at 23°C and humidity min. 35%	max 18 h	
Rubber parameters after seasoning at room temperature for at least 72 hours from the moment of hardening		
Thermal resistance	150°C (short-term up to 180° C)	
Hardness	30° ShA	
Elongation at break	500%	
Linear shrinkage (after 7 days of seasoning)	max. 0,1 %	
Tensile strenght	7,5 MPa	
Tear resistance	18 kN/m	

PROCESSING/CATALYSIS

Mix rubber GUMOSIL® AD-1S/A with a catalyst GUMOSIL® AD-1S/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.

CONTACT WITH FOOD

Silicone moulds made of Gumosil® AD-1S should not stay too long in contact with the liquid fat-based products (i.e. chocolate). The contact should be limited to a maximum of 2 hours (fat may cause swelling-degradation of the silicone) and the form temperature during this time should not exceed 40°C.

For other types of food, there are no restrictions on the residence time on the form and its temperature (up to 180°C). In addition, follow the general rules of conduct with silicon forms in the food industry (no contact with strong acids and bases as well as organic solvents); also, do not perform actions that would affect the stability of the silicone elastomers. It is also important to strictly follow the weight proportion of mixing the rubber with the catalyst (100 parts by weight of Gumosil® AD-1S/A to 10 parts by weight of Gumosil® AD-1S/B). It is forbidden to add even a minimum amount of silicone oil to the composition.

CURING (CROSSLINKING)

GUMOSIL® AD-1S cures at room temperature under the influence of the catalyst Gumosil® AD-1S/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.

CONNECTING THE COMPONENTS MADE OF RUBBER

Rubber parts can be joined or repaired with the same kind of rubber (e.g. cavities, tears).

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.

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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