

MM740FG (MM240FG) Addition cure moulding rubber

Introduction

MM740FG is a pourable 2-part addition cure silicone elastomer system, specially formulated for use in the food and confectionary industries. After mixing parts 'A' and 'B' in the correct proportions, the system will cure at ambient temperatures within 24 hours, but the rate of cure can be accelerated by heat. The cured rubber exhibits excellent physical properties.

Key Features

- **FDA CFR 177.2600 compliant for fatty and aqueous foods**
- **Very low shrinkage**
- **High dimensional stability**
- **Easily degassed**

Food Approvals

MM740FG Yes

Use and Cure Information

How to Use

IMPORTANT: MM740FG contains a platinum catalyst; great care should be taken when using automatic dispensing equipment. Please ensure that it is not contaminated by residual hydride containing rubber in the dispensing equipment, as curing will result. If in doubt, it's advised to thoroughly purge the equipment with a suitable hydrocarbon solvent or silicone fluid.

Mix both the A and B parts gently to ensure homogeneity. Place the required amount of A and B parts by weight at the ration of **10:1** (A to B) in a clean plastic or metal container of approximately 3 times their volume, and mix until the colour of the mixture is uniform. Degas by intermittent evacuation, the larger volume of the mixing vessel helps prevent overflow during this operation. In case of automatic dispensing with static mixing head, the two components should be degassed before processing. Recommended vacuum conditions are 850-1000 mbar intermittently over 5-10 minutes. Cast the mixture either by gravity or pressure injection.

Curing Conditions

The following table offers a guide to the rate of cure of **MM740FG** at various temperatures, mixing of the components between 15 and 25°C is recommended to ensure adequate pot life for degassing and handling. The pot life can be extended to several hours by chilling the components.

| Temperature, °C | Max Cure Time | De-mould Time |
|-----------------|----------------|---------------|
| 25 | 24 hrs | 4 hrs |
| 100 | 0.5 hrs | 1 hr |

Inhibition of Cure

Great care must be taken when handling and mixing all addition cured silicone elastomer systems, that all the mixing tools (vessels and spatulas) are clean and constructed in materials which do not interfere with the curing mechanism. The cure of the rubber can be inhibited by the presence of compounds of nitrogen, sulphur, phosphorus and arsenic; organotin catalysts and PVC stabilizers; epoxy resin catalysts and even contact with materials containing

certain of these substances e.g. moulding clays, sulphur vulcanised rubbers, condensation cure silicone rubbers, onion and garlic.

| Property | Test Method | Value |
|----------|-------------|-------|
|----------|-------------|-------|

Uncured Product

| | | |
|---|------------|-----------------------|
| Colour A Part: | | Pale grey |
| Colour B Part | | White |
| Colour Mixed | | White |
| Appearance: | | Viscous liquid |
| Viscosity: | Brookfield | 17000 mPa.s |
| Catalysed viscosity | Brookfield | 15000mPa.s |
| Pot Life: | | 60 minutes * |
| De-mould time | | 4 hours * |
| * measured at 23+/-2°C and 65% relative humidity using standard catalyst. | | |

Approved for use with food

Yes

Cured Elastomer

(after 7 days cure at 23+/-2°C and 65% relative humidity)

| | | |
|-----------------------------------|----------------|---------------------|
| Tensile Strength: | BS903 Part A2 | 4.70 MPa |
| Elongation at Break: | BS903 Part A2 | 400 % |
| Youngs Modulus: | | 1.27MPa |
| Modulus at 100% Strain: | BS903 Part A2 | 0.91MPa |
| Tear Strength: | BS903 Part A3 | 11.5 kN/m |
| Hardness: | ASTM D 2240-95 | 40° Shore A |
| Specific Gravity: | BS 903 Part A1 | 1.25 |
| Linear Shrinkage: | | 0.10 % |
| Coefficient of Thermal Expansion: | | |
| Volumetric | | 756 ppm / °C |
| Linear | | 252 ppm / °C |
| Min. Service Temperature: | | -50°C |
| Max. Service Temperature: | AFS 1540B | 200 °C |

All values are typical and should not be accepted as a specification.

FDA compliance

Approved for food use, all components present in the fully cured product are listed in CFR 21, 175.300, "Resinous and polymeric coatings" and CFR 21, 177.2600, "Rubber articles intended for repeated use". The fully cured rubber satisfies the requirements of CFR21, 175.300 and 177.2600, sub paragraphs (e) and (f) for applications involving both aqueous and fatty foods

Health and Safety - Material Safety Data Sheets available on request.

Packages – **MM740FG** is supplied in 1.1kg, 5.5 kg and 20 kg bulk containers.

Storage and Shelf Life – Expected to be **12** months in original, unopened containers below 30°C.

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