

## WSC1042 Clear

Weatherstrip Coating

### Description

WSC1042 clear weatherstrip coating is a single component matte translucent water-based silicone coating system that thermally cures to form a resilient silicone film. The cured coating can help to provide substrate surfaces such as EPDM rubber with lubricating water repellency and easy release characteristics. WSC1042 clear coating is an excellent candidate to consider for colored profiles, such as door or window seals where a smooth surface is preferred to impart low friction surfaces. WSC1042 clear can also be considered for use as an assembly aid at a low applied thickness for double glazing seals, as a permanent clean assembly aid in place of soap solutions, or oil emulsions that have a limited work life.

### Key Features and Typical Benefits

- Single component coating
- Excellent freeze release characteristics
- Excellent abrasion resistance
- Water based, lower VOC content and NMP free formulation
- Low static, dynamic CoF, and smooth transition for low noise generation
- Extended bath and storage life
- Excellent adhesion to EPDM , TPE and other rubber formulations
- Fast heat cure process (approx.1 minute)
- Long term performance

### Typical Physical Properties

| Property | WSC1042 Clear Silicone Base Emulsion |
|----------|--------------------------------------|
| Color    | Pale Yellow                          |

|   |       |
|---|-------|
| Solids Content (%)                        | 29    |
| Density (@ 23°C)                          | 1.026 |
| Viscosity (DIN 4 cup @ 23°C (seconds))    | 15    |
| Viscosity (mPas , Brookfield #2 @ 30 rpm) | 7.0   |
| pH  | 8.5   |
| Solvent                                   | Water |

Typical properties are average data and are not to be used as or to develop specifications.

### Typical Cured Product Properties

| Property                                     | Test Method    | Value         |
|--|----------------|---------------|
| Coefficient of friction (Static and Dynamic) | DIN 53375      | ~ 0.3         |
| Abrasion Resistance (Crockmeter 900 g load)  | Dry Crockmeter | > 5000 cycles |
| Appearance                                   | Visual         | Matte Black   |
| Freeze Release                               | TL 523 45      | Pass          |
| Repaintability                               | TSM 1701 G     | Pass          |
| Paint Staining                               | TSM 1701 G     | Pass          |

Typical properties are average data and are not to be used as or to develop specifications.

### Typical Cure Schedule

Complete cure in any specific application is a function of coating thickness, part geometry and the heat transfer characteristics of the substrate to which the coating is being applied.

Although the prepared coating will cure at an ambient temperature, it is not recommended as the adhesion and full abrasion performance may not be realized. An absolute minimum part temperature range of 80-120°C at the point of application is recommended to achieve the full coating performance.

NOTE : Curing at ambient temperature is not recommended.

| Part Temperature (actual not oven set point) |          |           |           |            |
|--|----------|-----------|-----------|------------|
| Cure Temperature (°C)                        | 160°C    | 150°C     | 100°C     | 80°C       |
| Cure Time (at temperature)                   | 1 minute | 2 minutes | 5 minutes | 10 minutes |

### **Typical Coating System Preparation**

The coating is supplied ready to use but may be diluted for dip tank application or where multiple spray nozzles are being used.

### **General Considerations for Use**

It is vitally important to thoroughly mix the WSC1042 clear base component to ensure any settled ingredients are well re-dispersed before use, as settling of the matting agent and friction modifier can occur on storage. Once fully mixed (be sure that no sediment remains in the pail), the coating is ready to use.

The bath should be kept under constant agitation to prevent settling of the active powders and to ensure maximum bath life. For best results, the substrate should be clean and dry and have a minimum temperature of 80°C, as lower application temperatures can adversely affect the adhesion and appearance of the coating. In general, temperatures up to 160°C or higher for a limited duration will not affect the coating and may actually lead to productivity gains.

For optimum coating adhesion and performance, ensure all surfaces are clean and dry before applying the coating solution. The substrate temperature should be between 80 – 230°C for on-line application and a minimum of 80°C part temperature at the time of coating for off-line applications.

WSC1042 clear weatherstrip coating is recommended to be sprayed, although dip coating has been used with success.

This coating is generally applied using multiple HVLP or electrostatic spray guns with an aircap diameter > 1.0mm. To avoid blocking of the guns, the coating should be filtered through a 200 micron mesh after the coating is prepared. It is a good practice to install a further filter between the holding tank and spray guns. Most on-line applications use multiple spray guns to achieve even coverage of the profile during extrusion.

It is important to apply sufficient material to achieve an initial wet look in order to help ensure continuous coverage and good coating adhesion. It is also possible to employ multiple spray heads in tandem in order to help ensure sufficient coating is applied and that no areas are left uncoated during the application process.

Typical bath life is 22 - 36 hours in a closed container which does not allow the surface to dry and form a skin which cannot be re-dispersed. Continuous slow speed agitation of the coating bath is recommended to reduce the possibility of settling of the matting agents and friction modifiers.

The applied coating thickness will depend on the application method and the required end-use requirements. Dry film thicknesses are typically between 3 and 10 microns dry film thickness.

### **Current Packaging**

WSC1042 clear

20 liter plastic pails with 18 kg fill

### **Patent Status**

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

### **Product Safety, Handling and Storage**

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at [www.momentive.com](http://www.momentive.com) or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

### **Limitations**

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular applications.

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