

WSC1042

Weatherstrip Coating

Description:

WSC1042 weatherstrip coating is a single component, water-based, matt black silicone coating system that thermally cures to form a resilient film. The cured coating provides substrate surfaces, such as EPDM rubber, with lubricating water repellency and easy release characteristics. WSC1042 coating is an excellent candidate to consider for dynamic automotive weatherstrip seals, such as primary and secondary door seals, or other seals where a smooth surface is preferred to impart low friction related noise generation. WSC1042 can also be considered for numerous building and construction applications, such as double-glazing window seals, 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 system
- Water-based. VOC-free. NMP-free. AP(EO) surfactant free.
- Excellent freeze release characteristics
- Excellent abrasion resistance
- Low Static / Dynamic CoF and smooth transition for low noise generation
- Extended bath life and shelf life
- Excellent adhesion to EPDM and other treated rubber types, such as TPE, NBR and SBR
- Extended bath life and shelf life
- Fast heat cure process (approx.1 minute)
- Long term performance

Typical Physical Properties:

Property	WSC1042
	Base Emulsion
Colour	Black
Solids Content (%)	29
Density (@ 23°C)	1.026
Viscosity (DIN 4cup @ 23°C (seconds))	15
Viscosity (mPas, Brookfield #2 30rpm)	7.0
pH	8.5
Solvent	Water

Note: Typical properties are average data and are not to be used to develop specifications.

Typical Cured Product Properties:

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

Note: Typical properties are average data and are not to be used 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. The recommended part temperature range at the point of application is 100-180°C to achieve the full coating performance. An absolute minimum part temperature of 80°C is possible in some applications. Higher substrate temperatures are preferred to achieve the best adhesion and appearance of the coating.

Part Temperature (actual not oven set point)				
Cure Temperature (°C)	180°C	150°C	100°C	80°C
Cure Time (at temperature)	1 minute	2 minutes	5 minutes	10 minutes

General Considerations for Use:

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

It is vitally important to thoroughly mix the WSC1042 base emulsion to ensure any settled ingredients are well re-dispersed before use as settling of the matting agent and friction modifier can occur during storage. Once fully mixed (be sure that no sediment remains in the pail), the base 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 100°C, as lower application temperatures can adversely affect the adhesion and appearance of the coating. In general, higher temperatures of 200°C or greater will not affect the coating and may actually lead to productivity gains.

Typical bath life is 22 – 36 hours in a closed container. Continuous slow speed agitation of the coating bath is recommended to reduce the possibility of settling of the matting agents and friction modifiers.

For optimum coating adhesion and performance, ensure all surfaces are clean and dry before applying the coating solution. The substrate temperature at the time of coating should be between 100 – 230°C for on-line application; and a minimum of 100°C for off-line applications, including drum/tumble coating where a suitable drying schedule must be used between each application.

WSC1042 weatherstrip coating is recommended to be spray coated. This coating is typically applied using HVLP 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 good practice to install a further 200 micron mesh 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. Again, it is also possible to employ multiple spray heads in tandem to help ensure sufficient coating is applied and no areas are left uncoated during the application process.

The resulting coating thickness will depend on the application method and the required end-use requirements. Dry film thicknesses are typically from 6 - 10 microns, with 8 microns recommended for optimum performance.

Packaging: WSC1042: 20 Litre plastic pail (18Kg fill)

Patent Status:

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a 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 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.

WSC1042 weatherstrip coating components have a shelf life of 24 months from date of manufacture when kept in the original unopened containers under suitable storage conditions (>2°C and <43°C)

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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