Technical Data Sheet

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
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