

WSC1042

Weatherstrip Coating

Before processing this product please read the associated Safety Data Sheet (SDS) for each component and observe good manufacturing practices

Coating Preparation:

1. When using weatherstrip coatings it is imperative that any settled matting agent or friction modifiers are brought back into suspension before use. After the pail of WSC1042 is opened a spatula or rod is used to loosen any deposit on the base of the container and thorough mixing using a paddle blade stirrer rotating at 30 - 100 rpm is run for a minimum of 10 minutes. The level of the stirrer is such that thorough mixing takes place with minimum foam generation.
2. WSC1042 is a single component coating supplied ready to use. The diluting water (if required), is added while the base is gently stirring. The coating mixture is then placed under the stirrer for a further 10 minutes. Filtration is recommended when transferring the coating from the mixing vessel to the container used for delivery to the application equipment to eliminate potential blockages caused by dry material falling back into the coating solution. We suggest a 200 micron disposable filter mesh. An alternate option is to install a filter in-line in the application tubing after the pump or pressure pot. The coating is then ready to use. All equipment used should be washed with clean water.

Application:

1. The coating can be applied by using any of the following methods:

Hand spray - using a HVLP gravity feed pistol

Robotic off-line spray - using electrostatic or HVLP gun

On-line - using single or multiple guns (determined by the profile to be coated)

Drip and brush - preferably using long bristles

All the above can be used in conjunction with pressure pot, gear pump or peristaltic pumps to feed coating to the application point.

2. If conventional HVLP equipment is used the air cap should be 1.0 - 1.2mm diameter. If needleless guns are used a nozzle diameter of 0.8mm is recommended.
3. The part temperature should be between 80 °C and 180 °C at the point where the coating is applied (colder will produce a slightly more gloss surface).
4. If adhesion problems are experienced this can be due to the formulation of the rubber compound or a difficult surface or that pretreatment does not exist or the part temperature is too low.

Coating:

1. The fluid flow, atomizing pressure and distance of the gun to the part will have a major impact on the finished film appearance and should be adjusted accordingly to give the desired aspect.
2. The coating should be applied so that it achieves a "wet" appearance at the coating station, but not excessively thick. The coating should be almost dry before the curing cycle.
3. If multiple guns are used it is important to apply the additional coatings while the original is still wet in order to achieve a good surface on the finished part. It is advisable to set up the coating equipment to minimize overspray and maximize use of the coating.

Curing:

1. Cure of the coating is a function of the coating thickness, time and temperature and is determined by the oven type, efficiency of the oven and part construction.
2. During the cure the part temperature should not exceed 200 °C otherwise degradation of the rubber surface can occur. Typical cure indications are 160 °C for 2 minutes; 140 °C for 4 minutes; 100 °C for 7 minutes 80 °C for 10 minutes. These figures refer to the part temperature NOT the air temperatures indicated on the ovens.
3. On exit from the production initial evaluation of the coating is made by stretching the part looking for cracking of the weatherstrip coating and a cross-hatch adhesion test, both of these routine examinations will quickly indicate problems of adhesion. Full laboratory testing will not give dependable results until 24 hours after coating, when the parts are fully cured and cold.

Evaluation:

1. Visual examination of the coating should be made at the start of the production to ensure the spray (or other application method) is acceptable

Common defects include:

- Heavy coating in grooves of the profile resulting in blisters - move guns further away from part or reduce coating flow to this area
- Heavy coating where sprays overlap - move spray pistols for better coverage
- Bubbles forming in grooves on the profile, WSC1042 is a hybrid coating so will film form on the surface before the bulk is dry so evaporating water will turn to steam and form blisters. To avoid this spray with higher atomizing pressure to achieve a "dry" spray
- Light coating in certain areas of the part - move spray pistols closer or increase coating flow to that area
- Spots showing in coating - guns too close or atomizing pressure too low
- Rough surface on coating - extreme result of above - Runs in coating - guns too close or too much wet coating being applied
- Poor adhesion on sponge rubber- part too hot at point of coating (on-line)
- Poor adhesion on solid rubber- free oils in rubber formulation (off-line) solvent wash to clean the surface before coating and use a primer

Contact Information

For product prices, availability or order placement, contact customer service at:
momentive.com/contact/customer-service

For literature and technical assistance, visit our website at: www.momentive.com

Telephone

Americas +1 800 295 2392 +1 704 805 6946	EMEA +40213 044229	China 800 820 0202 +8621 38604892	Japan 0120 975 400 +81 276206182	South Korea +82 2 6201 4600	South East Asia, Australia & New Zealand +60 3 9206 1543
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260 Hudson River Road
Waterford, NY 12188 USA

www.momentive.com

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