

IPAS 43-019

IP3-00019: 2 Component Low VOC Epoxy Thermal Filler:

1. Scope

- 1.1. This document covers the application and curing of IP3-00019 2 component low VOC epoxy thermal filler. This material is primarily designed for use as a lightweight thermal barrier / filler-primer in aerospace and industrial coating systems, although other applications may be applicable subject to end user approval
- 1.2. This procedure covers all versions
- 1.3. Please read this document in conjunction with any specifier drawings or application information sheets

2. Substrate Preparation

- 2.1. All substrates must be clean, grease and dust free prior to painting. The product can be used on a variety of substrates including metals, plastics and composites.
- 2.2. **Metals:** The normal minimum surface preparation should be abrasive blast with 120 / 220 aluminium oxide grit. It is more normal to utilise either a chromated or chrome free immersion conversion treatment or a chrome free or chromated anodic pre-treatment. It is normal to apply over a suitable epoxy primer. Please refer to IPAS433-P for application instructions for these primers.
- 2.3. **Plastics:** Dependent upon the grade of plastic, the use of a primer / basecoat may not be necessary. Please consult our technical services team for more information
- 2.4. **Composites:** Apply over a suitable basecoat / sealcoat: typically our IP2439 2 component sealer for composites is recommended. Please refer to IPAS 433-S for application instructions for this sealer.

3. Coating Preparation

- 3.1. Ensure that the material is thoroughly mixed prior to use. The coating could layer on standing due to the technical composition of the material.
- 3.2. **Mixing:** The IP3-00019 range is a two component product, and requires mixing with catalyst before use. Two alternative catalysts can be used, dependent upon required drying times and acceptable pot lives.
 - 3.2.1. **Standard Catalyst IP3-CAT**
Mix in the ratio 8 parts base component to 1 part IP3-CAT by volume. Mixed pot life 4 hours.
 - 3.2.2. **Fast Set Up Catalyst IP3-FASTCAT**
Mix in the ratio 7 parts base component to 1 part IP3-FASTCAT by volume. Mixed pot life 2 hours.

3.2.3. An induction time of 15 minutes is required following addition of the catalyst. Re-stir the mix before use.

3.3. The mixed material will require thinning for application. Maximum 10% thinner IP3-Reducer is required to give best atomisation

Viscosity measurement prior to application may be performed at the discretion of the end user.

4. Spray Room Conditions

4.1. Temperature and humidity within the spray area can affect the application properties of the coating

4.2. Our current recommendations on spray room conditions are as follows:

Temperature: in the range 12-30°C (54-86°F)

Humidity: in the range of 30-80%

4.3. These guidelines should be read in conjunction with any indicated values quoted in end user application specifications.

5. Application and Curing / Baking

5.1. The coating is designed for spray application using conventional or HVLP air atomising spray guns. It is recommended that latest generation 'compliant' spray guns are used to provide the best finish with minimal orange peel. It is recommended that a minimum material nozzle of 1.6mm, allied to the correct air-cap is used.

Other methods may be employed subject to end user evaluation and approval for specific components.

5.2. Parts shall be sprayed with wet on wet coats allowing a 2-5 minute dwell between each coat. This process will give a typical wet film thickness of 100 microns, nominal 50-60 micron dry film.

5.3. The range can be allowed to cold cure (air dry) or can be force cured. Using IP3-FASTCAT, the cold cure times will be reduced:

5.3.1. Air Drying

Minimum room temperature 12°C (55°F)

- | | | |
|---|--|--|
| - | IP3-CAT Standard Catalyst: | Surface dry / handleable: 4hours
Hard dry to overcoat: minimum 16 hours |
| - | IP3-FASTCAT Fast Set Up Catalyst: | Surface dry / handleable: 2 hours
Hard dry to overcoat: 5-6 hours |

Full chemical hardness: 7 days

5.3.2. **Force Curing:** Air Dry / Flash Off: 45 minutes at room temperature
Cure: Typically 60-90 minutes @ 70°C (160-195°F)

6. Coating Thickness

6.1. The recommended dry coating thickness is 75-150 microns, depending upon required filling or thermal barrier effect.

The information printed in this publication is based upon the research and experience of Indestructible Paint Ltd. No representation of warranty is made, however, concerning the accuracy or completeness of the information presented in this publication. Indestructible Paint Ltd make no warranty or representation of any kind, express or implied. Including without information limitation any warranty or merchantability or fitness for any particular purpose, and no warranty or representation shall be implied by law or otherwise. Any products sold by Indestructible Paint Ltd are not warranted as suitable for any particular purpose to the buyer. The suitability of any products for any purpose in particular to the buyer is for the buyer to determine. Indestructible Paint Ltd assumes no responsibility for the selection of products suitable to the particular purpose of any particular buyer. Indestructible Paint Ltd shall in no event be liable for any special, incidental or consequential damages.