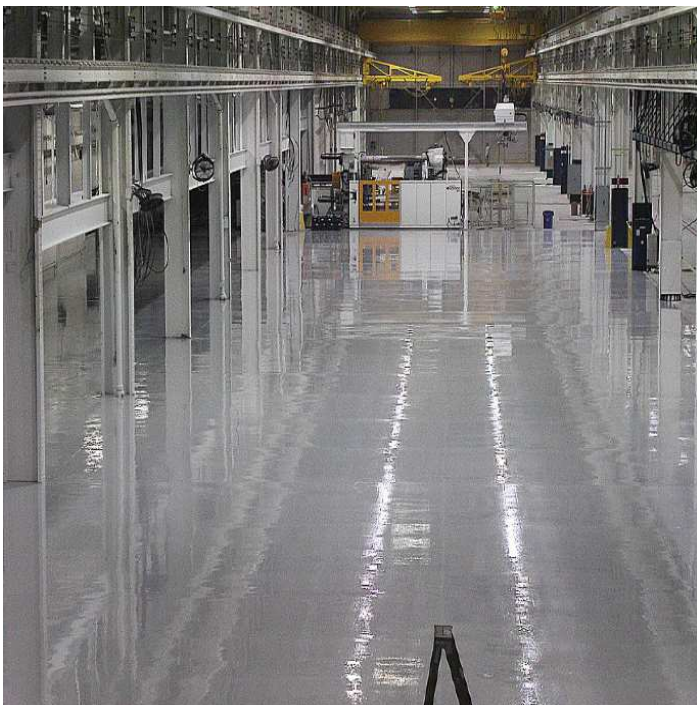


# Coathylene<sup>®</sup> Polymer Powders

Epoxy Additive



## Increase Impact Resistance – Reduce dripping



Epoxy industrial floors with Coathylene<sup>®</sup>  
TB 3580 powder additive

Epoxy based adhesives and fillers are relatively brittle products, which compromises their use in applications requiring flexibility and toughness.

In order to increase flexural properties and impact resistance, Axalta **Coathylene<sup>®</sup> TB3580** thermoplastic micro powders can be incorporated into the resin matrix

Coathylene<sup>®</sup> powders also modify the flow characteristics of the system and reduce dripping.

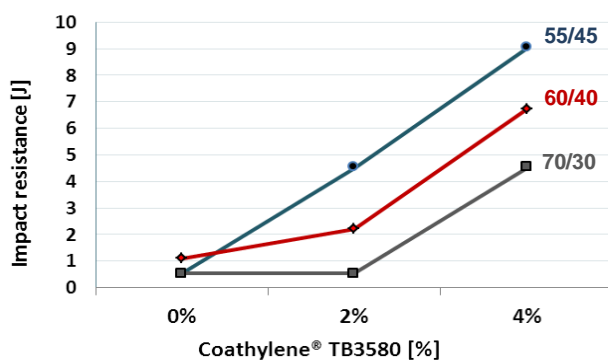


## Coathylene<sup>®</sup> TB 3580 improves impact resistance

Impact Resistance [J] at 25°C (direct failure ASTM D2794)

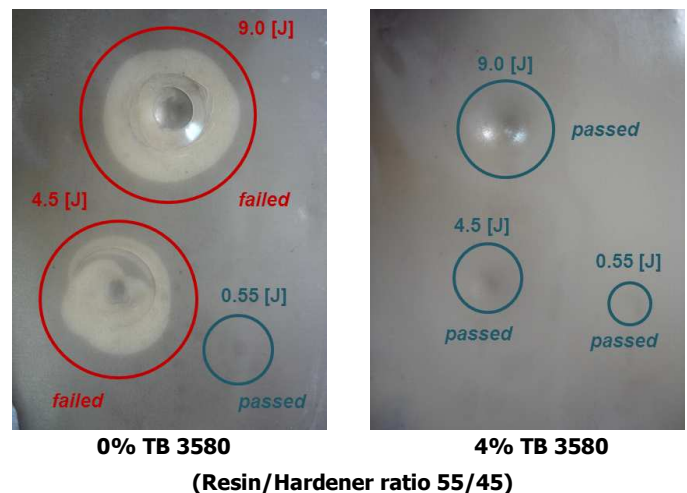
Resin / Hardener ratio	Curing Conditions	0% Coathylene <sup>®</sup> TB3580	2% Coathylene <sup>®</sup> TB3580	4% Coathylene <sup>®</sup> TB3580
55/45	5 day at 25 °C	0.55	4.5	9
60/40	5 day at 25 °C	1.1	2.2	6.7
70/30	5 day at 25 °C	0.55	0.55	4.5

Increased Impact Resistance at 25°C by adding Coathylene<sup>®</sup> TB3580 in liquid 2K epoxy resin (cured at 25°C)



The two pictures show how Coathylene<sup>®</sup> TB3580 additive, even in very small quantities, can improve the impact resistance of epoxy resin: without Coathylene<sup>®</sup> TB3580, the resin cracks and fails at less than 5J; with 4% Coathylene<sup>®</sup> TB3580, it passes impact test.

Laboratory tests have been made in order to compare the impact resistance of various epoxy resin matrices at 25°C (see table). The test results illustrate that increasing the percentage of **Coathylene<sup>®</sup> TB3580** dramatically increases impact resistance, even at low temperature.



## Improved impact resistance, even at low temperature

Impact Resistance [J] at 5°C (direct failure ASTM D2794)

Resin / Hardener ratio	Curing Conditions	0% Coathylene <sup>®</sup> TB3580	2% Coathylene <sup>®</sup> TB3580	4% Coathylene <sup>®</sup> TB3580
60/40	5 day at 25 °C	1.1	2.2	6.7

## Benefits of Coathylene<sup>®</sup> TB3580 ?

- Significant increase in impact resistance.
- Reduce dripping due to modification of the flow characteristics of the system
- In flooring applications : Coathylene<sup>®</sup> TB 3580 reduces downtime as it allows to put floors in service earlier without being damaged by mechanical impact
- In epoxy composites : Coathylene<sup>®</sup> TB 3580 improves deburring after molding



Coathylene<sup>®</sup> modifies the flow characteristics of the system

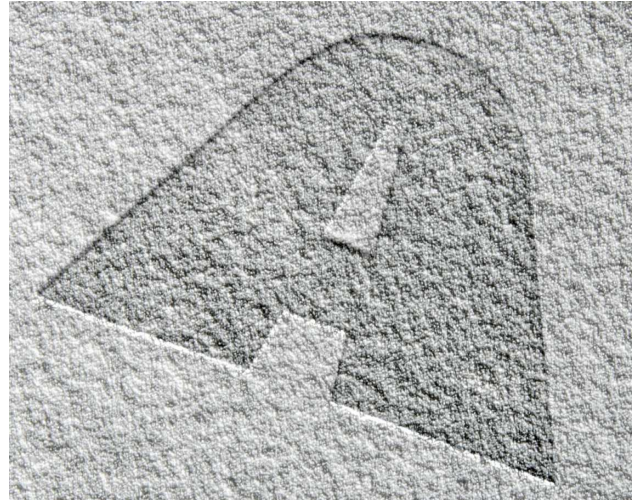
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Axalta Polymer Powders offers a wide range of powder coatings and micro-powder additives based on many different polymer chemistries. Do not hesitate to contact us to discuss your specific requirements.