



KARUMEL EX4505 is a epoxy/polyester resin based thermosetting powder coatings with texture finished appearance. It has excellent flexibility, corrosion and chemical resistance.

Recommended use	As a protective and decorative coating for use on electric home appliances, pipe, building materials, etc.
	Not recommended for exterior.

Physical Properties

Finish and Color	Semigloss Colors are available on request.															
Dried film Properties	The data are typical for EX4505 applied to Cold Rolled Steel panels (thickness 0.7mm) pretreated with zinc phosphate, coated with a thickness of ca. 60 μ m, and cured at 180 $^{\circ}$ C (356 $^{\circ}$ F) for 10 minutes. Typical values for semi glossy white powder coating.															
	<table border="1"> <thead> <tr> <th>Property</th> <th>Test Description</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Adhesion</td> <td>Cross-cut 100 / 100 (1 mm)</td> <td>100 / 100</td> </tr> <tr> <td>Impact</td> <td>Dupont Impact tester (Φ1/2")</td> <td>500 g / 30 cm</td> </tr> <tr> <td>Bending</td> <td>Mandrel Tester</td> <td>No Crack</td> </tr> <tr> <td>Salt spray resistance</td> <td>5% NaCl Fog, 240 hr</td> <td>Good</td> </tr> </tbody> </table>	Property	Test Description	Result	Adhesion	Cross-cut 100 / 100 (1 mm)	100 / 100	Impact	Dupont Impact tester (Φ 1/2")	500 g / 30 cm	Bending	Mandrel Tester	No Crack	Salt spray resistance	5% NaCl Fog, 240 hr	Good
Property	Test Description	Result														
Adhesion	Cross-cut 100 / 100 (1 mm)	100 / 100														
Impact	Dupont Impact tester (Φ 1/2")	500 g / 30 cm														
Bending	Mandrel Tester	No Crack														
Salt spray resistance	5% NaCl Fog, 240 hr	Good														
Specific gravity	Air Pycnometer method, 1.3 ~ 1.7 g/cm 3 according to color															
Spreading rate (Theoretical)	60 μ m dry film thickness 9.3 ~ 12.2 m 2 /kg * There is difference in recovery ratio of powder.															

Application details

Surface preparation	The surface must be clean and free from rust, dust, oil, grease and other contamination. Types of pre-treatment are recommended as follows: * Steel : Iron or Zinc Phosphating * Aluminum : Chromating				
Film thickness	Dry film thickness : 50 ~ 90 μ m				
Drying time	The following theoretical curing schedules are recommended to achieve the best performance properties. <table border="1"> <thead> <tr> <th>Temperature</th> <th>Cure Time</th> </tr> </thead> <tbody> <tr> <td>180$^{\circ}$C (356$^{\circ}$F)</td> <td>14 minutes (M.P.T)</td> </tr> </tbody> </table> * The cure time may have deviations influenced by various factors. * M.P.T means metal peak temperature	Temperature	Cure Time	180 $^{\circ}$ C (356 $^{\circ}$ F)	14 minutes (M.P.T)
Temperature	Cure Time				
180 $^{\circ}$ C (356 $^{\circ}$ F)	14 minutes (M.P.T)				

Storage and package

Shelf life	12 months at 25 $^{\circ}$ C (77 $^{\circ}$ F) with relative humidity 65% sealed state cool and dry place (Cooler temperature and lower humidity are recommended)
Packing Unit	20kg

Remarks	
Handling	Do not mix the powder with other powder even if it is small amount.
Precautions	Recovered powders should be incorporated with virgin powders for re-use, only after sieving and at a recommended maximum of 30%. A structure finish requires a recommended film thickness of 50~90 μ m to allow proper coverage. Exact application and cure conditions need to be followed to maintain consistent texture finish.
1'st issue	2007-01-01
Revision	2018-10-31

Disclaimer : The information in this data sheet is believed to the best of our knowledge based on laboratory test and practical experience. However, there are many factors affecting the performance of product and the product quality itself, so we are not able to guarantee without the confirmation of the purpose of using the product from us in writing. We reserve the right to change the data without notice and you should check that this data sheet is current prior to using the product.

