



# EPIGRIP M455V2

## PRODUCT TECHNICAL DATA

Full Description	EPIGRIP M455V2 HI-BUILD SHEEN PROTECTIVE FINISH		
Material Type	A high performance 2-pack epoxy protective finish		
Recommended Use	As a single coat shop applied protective finish for structural steel that will not normally require further site coats. Suitable for use in marine, chemical or other aggressive environments, but not immersed conditions		
Recommended Application Methods	Airless Spray Conventional Spray Brush (for all small areas and touch up only)		
Endorsements	BS476 Part 6 : Fire Propagation BS476 Part 7 : Surface spread of flame BS6853 Annex B2 : Toxic Fire BS6853 Annex D8.4 : Smoke Density Compliant with fire performance requirements in L.U. Standard 1-085 For details of substrate / scheme, consult Sherwin-Williams		
Colour Availability	Limited range		
Flash Point	Base: 23°C	Additive: 26°C	
% Solids by Volume	65 ± 3% (ASTM-D2697-91)		
V.O.C.	304 gms/litre determined practically in accordance with UK Regulations PG6/23 327 gms/litre calculated from formulation to satisfy EC Solvent Emissions Directive 228 gms/kilo content by weight from formulation, to satisfy EC SED		
Typical Thickness	<b>Dry film thickness</b> 125 microns <i>* This figure makes no allowance for surface profile, uneven application, overspray or losses in containers and equipment. Film thickness will vary depending on actual use and specification</i>	<b>Wet film thickness</b> 192 microns	<b>Theoretical coverage</b> 5.2m <sup>2</sup> /ltr*
Practical Application Rates – microns per coat	<b>Airless Spray</b> Dry 125* Wet 192 <i>* Maximum sag tolerance typically 225µ dry by airless spray</i>	<b>Conventional Spray</b> 125 192	
Average Drying Times	<b>At 15°C</b> 2 hours 6 hours 24 hours	<b>At 23°C</b> 1½ hours 4 hours 16 hours	<i>These figures are given as a guide only. Factors such as air movement and humidity must also be considered</i>
Recommended Thinner	Cleanser/Thinner No 5		
Resistance to	Moisture – Excellent Acid spillage – Moderate Alkali spillage – Excellent Petroleum solvents - Excellent	Aliphatic solvents – Excellent Abrasion – Excellent Weather – Excellent (subject to chalking)	
Recommended Topcoats	Not normally required. If however overcoating is necessary, M455V2 may be overcoated with a wide range of materials, please consult Sherwin Williams for advice.		
Pot Life	8 hours at 15°C                      6 hours at 23°C		
Package	A two component material supplied in separate containers to be mixed prior to use		
Pack Size	20 litre and 5 litre units when mixed		
Mixing Ratio	4 parts base to 1 part additive by volume		
Weight	1.43 kg/litre (may vary with shade)		
Shelf Life	2 years from date of manufacture or ‘Use By’ date where specified		

## **SURFACE PREPARATION:**

Blast clean to Sa2½ BS EN ISO 8501-1:2007. Average surface profile in the range 50-75 microns.

Ensure surfaces to be coated are clean, dry and free from all surface contamination. May also be applied over a wide range of pre-fabrication primers.

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## **APPLICATION EQUIPMENT:**

### **Airless Spray**

Nozzle Size	: 0.38mm (15 thou)
Fan Angle	: 80°
Operating Pressure	: 155kg/cm² (2200 psi)

The airless spray details given above are intended as a guide only. Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen. However, the operating pressure should be the lowest possible consistent with satisfactory atomisation. As conditions will vary from job to job, it is the applicators' responsibility to ensure that the equipment in use has been set up to give the best results. If in doubt Sherwin-Williams should be consulted.

### **Conventional Spray**

Nozzle Size	: 1.27mm (50 thou)
Atomising Pressure	: 2.8kg/cm² (40 psi)
Fluid Pressure	: 0.4kg/cm² (6 psi)

The details of atomising pressure, fluid pressure and nozzle size are given as a guide. It may be found that slight variations of pressure will provide optimum atomisation in some circumstances according to the set up in use. Atomising air pressure depends on the air cap in use and the fluid pressure depends on the length of line and direction of feed i.e. horizontal or vertical.

### **Brush**

The material is suitable for brush application to small areas and for touch up purposes. Application of more than one coat may be necessary to give equivalent dry film thickness to a single spray applied coat.

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## **Application Conditions and Overcoating**

Epoxy paints should preferably be applied at temperatures in excess of 10°C. In conditions of high relative humidity, ie 80-85% good ventilation conditions are essential. Substrate temperature should be at least 3°C above the dew point and always above 0°C.

At application temperatures below 10°C, drying and curing times will be significantly extended, and spraying characteristics may be impaired.

Application at ambient air temperatures below 5°C is not recommended.

In order to achieve optimum water and chemical resistance, temperature needs to be maintained above 10°C during curing.

If it is desired to overcoat outside the times stated on the data sheet, please seek advice of Sherwin-Williams.

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Drying times, curing times and pot life should be considered as a guide only.

The curing reaction of epoxies commences immediately the two components are mixed, and since the reaction is dependent on temperature, the curing time and pot life will be approximately halved by a 10°C increase in temperature and doubled by a 10°C decrease in temperature.

### **Epoxy Coatings - Colour Stability:**

Variable colour stability is a feature of epoxy materials which tend to yellow and darken with age whether used on internal or external areas. Therefore any areas touched-up and repaired with the same colour at a later date may be obvious due to this colour change.

When epoxy materials are exposed to ultra-violet light a surface chalking effect will develop. This phenomenon results in loss of gloss and a fine powder coating at the surface which may give rise to colour variation depending on the aspect of the steelwork. This effect in no way detracts from the performance of the system.

### **Epoxy Coatings - Tropical Use**

Epoxy paints at the time of mixing should not exceed a temperature of 35°C. At this temperature the pot life will be approximately halved. Use of these products outside of the pot life may result in inferior adhesion properties even if the materials appear fit for application. Thinning the mixed product will not alleviate this problem.

The maximum air and substrate temperature for application is 50°C providing conditions allow satisfactory application and film formation. If the air and substrate temperatures exceed 50°C and epoxy coatings are applied under these conditions, paint film defects such as dry spray, bubbling and pinholing etc. can occur within the coating.

Numerical values quoted for physical data may vary slightly from batch to batch.

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## **Health and Safety**

Consult Product Health and Safety Data Sheet for information on safe storage, handling and application of this product.

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Any person or company using the product without first making further enquiries as to the suitability of the product for the intended purpose does so at their own risk, and Sherwin-Williams can accept no liability for the performance of the product, or for any loss or damage arising out of such use

The information detailed in this Data Sheet is liable to modification from time to time in the light of experience and of normal product development, and before using, customers are advised to check with Sherwin-Williams, quoting the reference number, to ensure that they possess the latest issue