Carbothane® 8845

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Two component, acrylic, aliphatic polyurethane.
Description	Carbothane 8845 is a fast dry, high solids, low VOC, high gloss, high build, two component polyurethane coating. Carbothane 8845 exhibits the excellent dry times and handling characteristics required by Original Equipment Manufacturers. This coating has outstanding hardness, adhesion and resistance to: impact, marring, abrasion, chemicals and staining. Carbothane 8845 is recommended as a direct to metal finish coat or as a finish coat over properly primed substrates. Typical applications include air compressors, propane tanks, trailer chassis and frames, valves, pumps, waste water treatment plant equipment, agricultural equipment, hazardous material storage buildings and general industrial equipment. Not recommended for continuous immersion service.
Features	• VOC compliant – 1.9 lbs/gal (228 g/l) as supplied • Direct-To-Metal (DTM) • 6 hours to handle at 75 °F (24 °C) • High solids, high build, high gloss • Excellent abrasion resistance • Application by conventional, airless spray, HVLP or electrostatic • Excellent chemical resistance • Ambient air or force cure with conventional or infrared ovens • Suitable for USDA inspected facilities
Color	1864 (White), S800 (White), 6666 (Safety Yellow), 1675 (Ignition Yellow), 5555 (Safety Red), C703 (Grey), C705 (Light Grey), C900 (Black). Other colors are available on request. Contact your Carboline Representative for availability
Finish	High Gloss
Primer	Self-priming, epoxy, zinc rich epoxy or as recommended by Carboline.
Dry Film Thickness	3 - 5 mils (76 - 127 microns) per coat
Solids Content	By Volume 71% +/- 2%
Theoretical Coverage Rate	1139 ft²/gal at 1.0 mils (27.9 m²/l at 25 microns) 380 ft²/gal at 3.0 mils (9.3 m²/l at 75 microns) 228 ft²/gal at 5.0 mils (5.6 m²/l at 125 microns) Allow for loss in mixing and application.
VOC Value(s)	Per EPA Method 24: 1.9 lbs/gal (228 g/l) 6 oz/gal of Thinner 76: 2.1 lbs/gal (252 g/l)
Dry Temp. Resistance	Continuous: 200°F (93°C) Non-Continuous: 250°F (121°C) Discoloration is observed above 180°F (82°C).

SUBSTRATES & SURFACE PREPARATION

General	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
Steel	Abrasive blast to a commercial finish in accordance with SSPC-SP6 and obtain a 1½ - 2 mil (35-50 micron) blast profile.

SUBSTRATES & SURFACE PREPARATION

Phosphatized Steel	Apply 8845 directly to dry, properly phosphatized substrate. Perform adhesion tests to insure proper, uniform and acceptable adhesion of 8845 direct to phosphatized metal substrate.
Primed Surfaces	Remove any oil or grease from the surface to be coated with Thinner 2 or Carboline Surface Cleaner 3 (Refer to Data Sheet) in accordance with SSPC-SP1.
Non-Ferrous Metals	Surface profile should be a dense angular 1.5 - 2 mils and is best achieved through abrasive blasting in accordance with SSPC-SP16.

TYPICAL CHEMICAL RESISTANCE

Exposure	Fumes	Splashes & Spills
Acids	Excellent	Very Good
Alkalies	Excellent	Very Good
Salt	Excellent	Excellent
Solvents	Excellent	Very Good
Water	Excellent	Excellent

1. Certain colors may discolor.
2. Resistance may vary dependent on the type of solvent involved.

MIXING & THINNING

Mixing	For plural component application equipment follow the equipment manufacturer's instructions. For batch mixing, power mix part A separately, then combine with part B and power mix thoroughly in the following proportions: THIS PRODUCT IS MOISTURE SENSITIVE. AVOID MOISTURE CONTAMINATION. DO NOT MIX PARTIAL KITS.
Thinning	Normally not required. May be thinned up to 6 oz/gal (49 g/l) (5%) with Thinner 76. Thinner 97 or Thinner 214 may be used when applying 8845 in very hot conditions or longer working time is required. Thinner 215 may be used for brush/roll applications. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.
Ratio	4:1 Ratio (A to B) Part A (Carbothane 8845): 4 parts Part B (Carbothane 8843 Converter): 1 part **1 Gallon Kit** Part A (8845): 0.8 gallons (in 1 gallon can) Part B (Urethane Converter 8843): 25.6 fluid oz **5 Gallon Kit** Part A (8845): 4 gallons (in 5 gallon can) Part B (Urethane Converter 8843): 1 gallon
Pot Life	90 min at 75°F (24°C) unthinned. Pot life decreases at higher temperatures. Pot life ends when coating becomes too viscous to use. This product is moisture sensitive. Avoid moisture contamination. Some colors made with Rapid Tint System (RTS) colorants added to Part A CLER base may result in significantly shorter pot life.

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Spray Application (General)	The following spray equipment has been found suitable and is available from manufacturers.
Conventional Spray	Pressure pot equipped with dual regulators, 3/8” (0.95 cm) I.D. minimum material hose, 0.070” (0.18 cm) I.D. fluid tip and appropriate air cap.
Airless Spray	Pump Ratio: 30:1 (min.)* GPM Output: 3.0 (min.) Material Hose: 3/8” (0.95 cm) I.D. (min.) Tip Size: 0.013-0.017” (0.03-0.04 cm) Output PSI: 2500-3500 Filter Size: 60 mesh *PTFE packings are recommended and available from the pump manufacturer.
Touch Up	Respray or brush. Brushing recommended only for touchup of small areas. Use natural bristle brush applying with full strokes.
Electrostatic	Contact Carboline for specific equipment recommendations.
HVLP	Contact Carboline for specific equipment recommendations.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	50°F (10°C)	35°F (2°C)	35°F (2°C)	10%
Maximum	130°F (54°C)	120°F (49°C)	95°F (35°C)	80%

Industry standards are for substrate temperatures to be 5°F (3°C) above the dew point.
Caution: This product is moisture sensitive in the liquid stage and until fully cured. Protect from high humidity, dew and direct moisture contact until fully cured. Application and/or curing in humidities above maximum, or exposure to moisture from rain or dew may result in loss of gloss and/or microbubbling of the product.

CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry to Handle	Final Cure	Minimum Recoat Time
50°F (10°C)	2 Hours	9 Hours	10 Days	21 Hours
75°F (24°C)	90 Minutes	6 Hours	7 Days	14 Hours
90°F (32°C)	60 Minutes	4 Hours	5 Days	9 Hours

These are minimum times are based on a 4.0 mil (100 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure.
Carboline Additive 8509 can be used to accelerate the film forming process in this product for conditions outside of the parameters of this data sheet. Carboline Additive 8509 is added at a rate of up to 1 oz per mixed gallon or up to 5 oz per mixed five gallons. At this addition rate, Additive 8509 will accelerate the cure rate of the urethane product between 25-40% depending on the substrate temperature range and reduce the pot life of the product by approximately 40-50% of that stated on the product data sheet. With the use of Additive 8509, this product will continue to cure at temperatures as low as 20°F (-7°C).
Maximum recoat times are indefinite. Surface must be clean and dry. As part of good painting practice it is recommended to test for adhesion by wiping the surface with Thinner 214 or 215. If the film shows a slight “tack” the surface is suitable for recoating without extensive surface preparation such as abrading.

CURING SCHEDULE

Force Cure	**Oven Temperature at 150°F (66°C)** Flash Time is 20 minutes. Oven Dwell Time is 45 minutes. Cool Down is 10 minutes. **Oven Temperature at 180°F (82°C)** Flash Time is 20 minutes. Oven Dwell Time is 30 minutes. Cool Down is 10 minutes

CLEANUP & SAFETY

Cleanup	Use Thinner 2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
Safety	Read and follow all caution statements on this product data sheet and on the SDS for this product. Employ normal workmanlike safety precautions. Hypersensative persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.
Ventilation	When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure, use MSHA/NIOSH approved supplied air respirator.
Caution	This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use nonferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: Min. 36 months at 75°F (24°C) Part B: Min. 24 months at 75°F (24°C) *Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.
Storage Temperature & Humidity	40° - 110°F (4-43°C) 0-80% Relative Humidity
Storage	Store Indoors
Shipping Weight (Approximate)	**1 Gallon Kit** 15 lbs. (6 kg) Thinner 76: 8 lbs. (4 kg) Thinner 97: 8 lbs. (4 kg) **5 Gallon Kit** 58 lbs. (22 kg) Thinner 76: 41 lbs. (19 kg) Thinner 97: 41 lbs. (19 kg) Carbothane 8845 may be available in drum quantities

PACKAGING, HANDLING & STORAGE

Flash Point (Setaflash)	Part A: 63°F (17°C) Part B: 62°F (17°C) Thinner 76: 21°F (-6°C)

WARRANTY

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.