

## Selection Data

**GENERIC TYPE :** Self-curing, zinc filled inorganic coating. Base (zinc paste) and liquid mixed prior to application. Carboweld 11P distinguishes from Carboweld 11 only by the preparation of zinc in paste.

**GENERAL PROPERTIES :** A weldable inorganic zinc primer. Welds made over Carboweld 11P coated steel are equal in every respect to welds joining uncoated steel prior to fabrication. Carboweld 11P protects cathodically for periods exceeding 12 months in normal and marine environments. Weld spatter does not adhere to or damage the coating. Coated steel can be welded as quickly and easily as bare steel at production line speeds, with no loss in strength or consistency of the weld. Applied by conventional or airless spray methods. Dries to touch and can be handled in 3-5 minutes. May be topcoated with Carbozinc 11P and most conventional paints and coatings.

**RECOMMENDED USES :** Carboweld 11P is used as a pre-construction primer in shipyards and fabricating shops. It has many cost saving advantages over conventional shop primers.

**NOT RECOMMENDED FOR :** Exposure to acid, alkalis or solutions outside a pH range of 5 to 10, without suitable topcoat.

**HEAT RESISTANCE :** Burnback from welding is negligible. Carboweld 11P is not damaged when welding is carried out on the opposite side of the thick plate.

**TEMPERATURE RESISTANCE :** (Non-immersion)

Continuous : 750°F(399°C)  
Non-continuous : 800°F(427°C)

**FLEXIBILITY :** Very Good.

**WEATHERING :** Excellent : marine areas - 6 months.  
inland areas - 1 year.

**ABRASION RESISTANCE :** Excellent. Abrasion resistance increases as the coating ages.

**SUBSTRATES :** Apply over suitably prepared steel, cast iron or other as recommended.

**TOPCOAT REQUIRED :** May be topcoated with Carbozinc 11P epoxies, epoxy-tars, vinyls, acrylics, chlorinated rubbers, silicones. Consult with Carboline Technical Service for specific recommendations.

**COMPATIBILITY WITH OTHER COATING :** Apply directly to the properly prepared substrate.

**WELDING DATA :** Automatic - Carboweld 11P applied at recommended thickness may be welded at speed up to 48" per minute. This is dependent upon plate thickness and bead size. This includes the following processes : 1) Submerged arc ; 2) Flux core ; 3) Short arc ; 4) Metal Inert Gas(MIG).

Hand - Carboweld 11P can be easily welded by all Electrodes with MIL E numbers between 6010 and 10018.

## Specification Data

**THEORETICAL SOLIDS CONTENT OF MIXED MATERIAL :**

	<u>By Weight</u>
Carboweld 11P	48% ± 2%
Percent Total Zinc in the dry film	85% ± 2%

**RECOMMENDED DRY FILM THICKNESS PER COAT :**  
3/5 to 1 mils (15-25µ)

**THEORETICAL COVERAGE PER MIXED GALLON\*:**  
480 mil sq. ft. ( 12 sq. m/l at 25µ).

\*NOTE : Material losses during mixing and application will vary and must be taken into consideration when estimating job requirements.

**SHELF LIFE :** 12 months

**COLORS :** Gray only

**GLOSS :** Matte finish.

## Ordering Information

**APPROXIMATE SHIPPING WEIGHT :**

	<u>1's</u>	<u>3's</u>	<u>15's</u>
Carboweld 11P	14 lbs. (6.4 kg)	36 lbs. (17.3 kg)	184 lbs. (83.6 kg)
Carboline Thinner #33	9.0 lbs. (4.1 kg)	41 lbs. in 5's (18.6 kg)	
Carboline Thinner #21	8.0 lbs. (3.6 kg)	36 lbs. in 5's (16.3 kg)	

**FLASH POINT :** (Pensky-Martens Closed Cup)

Carboweld 11 P Base	57°F(14°C)
Carboweld 11 P Liquid	52°F(11°C)
Carboline Thinner #33	101°F(38°C)
Carboline Thinner #21	53°F(12°C)

Prices may be obtained from Carboline Sales Representative or Main Office.

# Carboweld® 11P

**SURFACE PREPARATION** : Remove any oil or grease from surface to be coated with clean rags soaked in Carboline Thinner #2 in accordance with SSPC-SP 1.

**Steel** : For immersion service, dry abrasive blast to a Near White Metal finish in accordance with SSPC-SP 10-82 (Swedish Standard SA 2 1/2) to obtain a 1 to 2 mil (25-50µ) blast profile. For non-immersion service, dry abrasive blast to a commercial finish in accordance with SSPC-SP-6 and obtain a 1 to 2 mil (25-50µ) blast profile.

**MIXING** : Power mix base, then combine with liquid and mix in the following proportions:

	<u>5 Gal. Kit</u>
Carboweld 11P Base (Part A)	3 gal. (Partially filled)
Carboweld 11P liquid (Part B)	2 gal.

Mix as supplied liquid slowly into base with continuous agitation. Mix until free of lumps. Pour mixture through a 30 mesh screen. When less than full kit is used, mix by weight 100 Part Base to 31.4 Part liquid. Thin up to 35% by volume with Carboline Thinner #21 in cool weather (below 55°F[13°C]). For hot or windy conditions, use Carboline Thinner #33.

**NOTE** : Use of thinners other than those supplied or approved by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

**POT LIFE** : 24 hours at 75°F (24°C) and less at higher temperatures. Pot life ends when material becomes too viscous to use.

**APPLICATION TEMPERATURES :**

	<u>Material</u>	<u>Surfaces</u>
Normal	40-95°F(4-35°C)	40-110°F(4-43°C)
Minimum	0°F(-18°C)	0°F(-18°C)
Maximum	130°F(54°C)	200°F(93°C)
	<u>Ambient</u>	<u>Humidity</u>
Normal	40-95°F(4-35°C)	40-90%
Minimum	0°F(-18°C)	10%
Maximum	130°F(54°C)	95%

Do not apply when the surface temperature is less than 5°F(3°C) above the dew point.

Special thinning and application techniques may be required above or below normal conditions.

**SPRAY** : Use sufficient air volume for correct operation of equipment.

Use a 50% overlap with each pass of the gun. On irregular surfaces coat the edges first, making an extra pass later.

**NOTE** : The following equipment has been found suitable; however, equivalent equipment may be substituted.

Use agitated pot. Maximum 50 foot hose. Keep pot at same elevation as gun. If spraying stops for more than 15 minutes, blow material from hose back into pot.

**Conventional** : Use a 3/8" minimum I.D. material hose. Hold gun approximately 12-14 inches from the surfaces and at a right angle to the surface.

**Airless** : Use a 3/8" minimum I.D. material hose. Hold gun approximately 18-20 inches from the surface and at a right angle to the surface.

<u>Mfr. &amp; Gun</u>	<u>Fluid Tip</u>	<u>Air Cap</u>
Binks #18 or #62	66	63PB
DeVilbiss P-MBC or JGA	E	704
	Approx..070" I.D.	

\* Reverse-A-Clean tip is recommended. Use a .019-.023" tip with 1500-2000 psi.

**BRUSH OR ROLLER** : For minor touch up only. Use medium bristled brush. Apply with full brush and avoid rebrushing.

**DRYING TIMES :**

<u>Temperature with over 50% RH</u>	<u>Before Handling*</u>	<u>Final Cure</u>
0°F(-18°C)	6 hours	5 days
40°F(4°C)	40 minutes	12 hours
60°F(16°C)	15 minutes	6 hours
80°F(27°C)	5 minutes	4 hours
100°F(38°C)	3 minutes	2 hours
*Minimum times.		

**NOTE** : Carboweld 11P will skin if left in open cans. Skin has no effect on performance, but should be removed before using.

**VENTILATION & SAFETY** : When used in tanks or other enclosed areas, thorough air circulation must be present or must exist 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. In addition to proper ventilation, fresh air respirators or fresh air hoods must be used by all application personnel. Where flammable solvents exist, explosion-proof lighting equipment must be used. Hypersensitive persons should wear clean protective clothing, gloves and/or protective cream on face, hands and all exposed areas.

**CLEAN UP** : Use Carboline Thinner #2. Remove hardened material with 10% caustic solution: Caution : Caustic attacks aluminum.

**STORAGE CONDITIONS** : (Store indoors)

Temperature : 40°F-110°F(4-43°C)  
Humidity : 0-100%

CAUTION: CONTAINS FLAMMABLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKMEN MUST WEAR FRESH AIRLINE RESPIRATORS. HYPERSENSITIVE PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRIC EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSION HAZARDS EXIST. WORKMEN SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES.

