

SELECTION & SPECIFICATION DATA

Generic Type	Solvent-free aromatic polyurethane, ASTM D16 Type V
Description	<p>Polyclad 777 Medium Set is a high performance 100% solids structural polyurethane designed to provide superior corrosion protection for steel, ductile iron and concrete pipe. Tenacious adhesion and high impact resistance allow its use in the harshest environments. It forms a dense, long-term impermeable barrier that is ready for service moments after application through a snap-set cure mechanism.</p> <p>Typical uses include steel pipeline exteriors, steel valves & fittings, steel pilings, steel poles (above & below ground), buried tank exteriors, penstocks.</p> <p>No primer is required. Available in snap, fast, medium and slow set times.</p>
Features	<ul style="list-style-type: none"> • Fast curing to increase through put • Excellent abrasion resistance • Superior wetting properties for outstanding adhesion • Mix ratio 1:1 and user friendly application properties • Can be topcoated by Carbothane series of products • Unlimited build with single multi-pass coats • Compliant with AWWA C222 • Compliant with EN 10290
Color	Yellow 0600 (made to order)
Finish	Gloss
Primer	No primers needed- direct to steel
Dry Film Thickness	<p>635 - 1016 microns (25 - 40 mils) For most applications on steel.</p> <p>635 - 3175 microns (25 - 125 mils) For other applications on steel, depending on service conditions.</p>
Solids Content	By Volume 100% +/- 0%
Theoretical Coverage Rate	<p>39.4 m²/l at 25 microns (1604 ft²/gal at 1.0 mils)</p> <p>1.6 m²/l at 625 microns (64 ft²/gal at 25.0 mils)</p> <p>0.3 m²/l at 3125 microns (13 ft²/gal at 125.0 mils)</p> <p>Allow for loss in mixing and application.</p>
VOC Values	As Supplied : <0.04 lbs/gal
Approvals	<p>Meets requirements of AWWA C222-08</p> <p>Meets requirements of BS EN ISO 10290-2002</p>
Limitations	Due to its aromatic composition Polyclad 777 will tend to yellow or darken in exterior UV exposure. This will not affect performance.
Topcoats	Consult Carboline Technical Service

SUBSTRATES & SURFACE PREPARATION

General	<p>Steel or ductile iron</p> <p>Remove dirt/dust/grease/oil following SSPC-SP1. Abrasive blast to SSPC-SP10. Achieve a 3 to 5 mil (75 to 125 micron) "angular" anchor profile. Ensure dust/smut from blasting operation does not interfere with adhesion, prefer two maximum on ISO 8502-3 test. Apply product prior to any flash rusting or contamination fall-out.</p>
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Polyclad 777 Medium-Set

PRODUCT DATA SHEET



PERFORMANCE DATA

All test data was generated under laboratory conditions. Field testing results may vary.

Test Method	System	Results
Abrasion Resistance ASTM D4060	One coat Polyclad 777	58 mg loss
Adhesion to Steel ASTM D4541	One coat Polyclad 777	Min. 1500 psi*
Cathodic Disbondment ASTM G-95	One coat Polyclad 777	<= 9 mm
Chemical Resistance ATSM D543	One coat Polyclad 777	Pass 30 day immersion
Dielectric Strength D149	One coat Polyclad 777	> 700 V/mil
Flexibility ASTM D522	One coat Polyclad 777	Pass 3 inch 180 degrees
Hardness: ASTM D2240 Shore D	One coat Polyclad 777	> 70 Shore D
Impact Resistance ASTM D2794	One coat Polyclad 777	128 in-lbs
Impact Resistance ASTM G14	One coat Polyclad 777	101 in-lbs
Tensile Strength ASTM D412	One coat Polyclad 777	4000 + psi
Water Absorption ASTM D570	One coat Polyclad 777	< 1.6%

Adhesion over 3,000 psi is common with high peak count, surface cleanliness and good adhesive. Preferred adhesives for running adhesion testing are 3M CA-100 and 3M DP-460.

MIXING & THINNING

Mixing | Power mix part B until the pigments are dispersed into a homogeneous liquid. Do not batch mix parts A & B. Do not thin.

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.

General | Applicators must be knowledgeable with the proper safety guidelines, operation and maintenance of the spray equipment - pumps, hoses, heaters, spray gun.

Airless Spray | Use only heated plural component airless equipment. Plural airless pump must have a 1:1 ratio capability along with 1.25 gallons per minute with a fluid pressure up to 3000 psi. Use a paint system setup that can transfer coatings from heated drums to the proportioners and maintain heated material to the spray tips. Contact Carboline Technical Service for specifics.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	52°C (125°F)	-18°C (-0°F)	2°C (35°F)	0%
Maximum	66°C (150°F)	49°C (120°F)	49°C (120°F)	85%
Optimum	54°C (130°F)	21°C (70°F)	21°C (70°F)	0%

Industry standards are for substrate temperatures to be 5 F(3 C) above the dew point. Caution: this product in the liquid stage is moisture sensitive and needs to be protected from high humidity, dew and direct moisture contact until cured to a firm state. Application and/or curing in humidity above maximum, or exposure to moisture from rain or dew may result in a loss of gloss, micro bubbling and/or blistering of the product.

Note: for applications on concrete please contact your Carboline representative for proper application procedures.

CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry to Handle
24°C (75°F)	3 Minutes	15 Minutes

Lower metal temperatures will slow the dry time and higher metal temperatures will speed up dry time. Product is ready for holiday testing as soon as it reaches its dry-to-handle state.

Can be topcoated with Carbothane aliphatic polyurethanes as soon as it is dry to touch. Maximum recoat time with Carbothane series is 28 days. To topcoat past the maximum recoat time the surface must be abraded and cleaned.

Maximum recoat with itself is two hours.

CLEANUP & SAFETY

Cleanup	Use Thinners 2 or 76. To clean lines, use Thinner 76 followed by Carboline's Polyclad Line Stabilizer for long term storage. Contact Carboline Technical Service for cleaning recommendations. In case of spills, 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. Use adequate ventilation. Keep container closed when not in use.
Caution	This product does not contain flammable solvents, however, clean-up solvents that may be used do contain 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, workers should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	Part A: Min. 12 months at 75°F (24°C) Part B: Min. 12 months at 75°F (24°C) *When kept at recommended storage conditions and in original unopened containers.
Shipping Weight (Approximate)	10 gallon kit - 101 lb. (45.8 kg) 110 gallon kit - 1,111 lb. (503.9 kg) 528 gallon kit - 5,150 lb. (2,336 kg)
Storage Temperature & Humidity	40° - 90°F (16°-32°C) 0-100% Relative Humidity
Flash Point (Setaflash)	Part A 350°F (177°C) Part B =330°F (166°C)
Storage	Store indoors and keep dry. Blanket all partial drums with nitrogen gas to prevent moisture contamination. Avoid freezing. Do not open until ready to use.
Packaging	10 gallon, 110 gal, 528 gal and dual cartridge kits

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PRODUCT DATA SHEET



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 Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance, injuries or damages resulting from use. Carbolines sole obligation, if any, is to replace or refund the purchase price of the Carboline product(s) proven to be defective, at Carbolines option. Carboline shall not be liable for any loss or damage. 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.