



Mastics, Coatings, Adhesives, Sealants

CHIL-TUFF™ CP-181 HVAC Duct Sealant

INDOOR / OUTDOOR WATER-BASED DUCT SEALANT AND MASTIC

DESCRIPTION

CHIL-TUFF™ CP-181 is a fire-resistive, fibrated, water-based duct sealant and mastic for use on heating, ventilating and air conditioning duct systems. It is easily applied by brush and will not drip or sag. When dry, it forms a tough, flexible, UV- and water-resistant air seal.

USES

CHIL-TUFF™ CP-181 is used to seal all high, medium and low pressure HVAC systems including metal and flexible ductwork and fiberglass duct board. Application by trowel or brush readily fills the joints of round or rectangular, ductwork, diffusers, and mixing boxes. CP-181 can also be used as a duct closure mastic for vapor sealing ASJ, FRK and FSK jackets and board facings at joints, laps and over staple and weld pin punctures.

ADVANTAGES

- Water-based for personal & environmental safety.
- Application is quick & easy for economical installation.
- Dries firmly & forms a strong, resilient, fibrated seal.
- Creates a permanently flexible seal (even when system cycles between high & low temperatures).
- Resistant to fire, oxidation, cracking, moisture, & water.
- Long service life. both indoors and out.
- Quick & efficient clean of tools with hot water when sealant is wet.

LIMITATIONS

- Store and apply between 40°F (4°C) and 100°F (38°C); protect from freezing.
- To resist rain washoff, allow at least 16 hours drying time above 40°F (4°C), with a relative humidity of 50%.
- Always test foil and paper facings for acceptable adhesion.
- Outdoor horizontal surfaces must always drain completely. A pitch of at least ¼ inch per foot (2 cm/m) is required.
- Mechanical fasteners of the type and number normally used for duct assemblies are required to provide rigidity to the duct system.

CERTIFIED

- MAS Certified Green®
- California Dept. of Public Health Standard Method v1.2
- VOC Emissions and Content requirements to contribute to

LEED v4 EQ Credit: Low Emitting Materials – Paints and Coatings

- Collaborative for High Performance Schools EQ 7.1
- CHIL-TUFF™ CP-181 is produced under the classification and follow-up service of Underwriter's Laboratories, Inc.
- Meets NFPA 90A and 90B 25/50 requirements
- Meets all SMACNA pressure classes up to 10" w.g. and SMACNA seal classes A, B and C on ducts constructed to SMACNA standards



COLOR

White or Gray

AVERAGE WET WEIGHT (ASTM D1475)

12.0 lbs. (1.44 kg/l)

AVERAGE NON-VOLATILE (ASTM D2369)

69% by weight

SERVICE TEMPERATURE RANGE

Temperature to which dry film is subjected.
20°F to 200°F (-7°C to 93°C)

DRYING TIME

To Touch: 1 hours

Through: 16 hours

Temperature, humidity and film thickness will affect drying time.

COVERAGE

Varies with substrate.

50 sq. ft./U.S. gallon (1.22 m²/liter)

CLEAN UP

Warm, soapy water

SURFACE BURNING CHARACTERISTICS (ASTM E84)

Flame Spread: 20

Smoke Developed: 15

Tested at coverage rate of 45 sq. ft. per gal. (1.1 m²/l) in a 3 in. (7.6 cm) strip. Applied to rigid fiberglass duct board. Type 475, covered with foil/scrim/kraft paper facing material.



UL 181A-M
UL 181B-M
6P84

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Application Guide and Suggested Procedures

MATERIAL PREPARATION

All surfaces where sealant will be applied must be clean, dry, and free of oil or grease prior to application. Do not thin. Keep container closed when not in use.

APPLICATION

UL 181A MASTIC CLOSURE OF UL 181 RIGID FIBERGLASS AIR DUCTS:

Apply to the surface by brush, trowel or power extrusion. Uniformly brush out at 3" – 4" wide tack coat over the stapled and smoothed joint at the nominal rate of 1.12 gal./100 sq. ft. (0.46 l/m²). Embed the reinforcing membrane into the tack coat, taking care that all of the mesh is filled. Pull the membrane taut and apply a second coat at the nominal rate of 1.12 gal./100 sq. ft. (0.46 l/m²). Allow the completed joint to dry at least 24 hours above 70°F (21°C) before pressure testing. High humidities (over 70%) and/or cooler temperatures may retard drying. Total (mastic plus scrim plus mastic) wet film thickness to be 36 mils. Fiberglass scrim to be 5 mils thick, 20x10 plain weave weighing 1.75 oz/yd² (59 g/m²).

UL 181B MASTIC CLOSURE OF UL 181 FLEXIBLE AIR DUCTS:

Apply to clean, dry, oil-free surface by brush, trowel or power extrusion. Uniformly brush out at 2" wide coat over the joint at the nominal rate of 1.87 gal./100 sq. ft. (0.76 l/m²). Total coverage rate to be 53.5 sq. ft./gal. (1.31 m²/l). Allow the completed joint to dry at least 24 hours above 70°F (21°C) before pressure testing. High humidities (over 70%) and/or cooler temperatures may retard drying. Total wet film thickness to be 30 mils (0.76 mm).

METAL DUCT SEALANT

Apply at a rate of 50 – 55 sq. ft./gal. (1.23 – 1.35 m²/l). Work into crevices and ensure sealant film bridges all gaps maintaining minimum film thickness over seams. Reinforcing membrane is not required for sealing metal duct. Allow the completed joint to dry at least 24 hours above 70°F (21°C) before pressure testing.

OTHER DUCT CLOSURE APPLICATIONS:

For other applications sealing foil faced insulation boards and duct wrap the use of a reinforcing membrane may be optional and shall be used depending on the system design. Apply at a rate of 50 – 55 sq. ft./gal. (1.23 – 1.35 m²/l). Allow the completed joint to dry at least 24 hours above 70°F (21°C) before pressure testing.

High humidities (over 70%) and/or cooler temperatures may retard drying. For best results, do not exceed 1/8" (3.2 mm) wet film thickness. CP-181 Duct Sealant is weather, water and UV resistant, allowing it to be used outdoors and in high humidity environments. LIMITATIONS: Always test foil and paper facings for acceptable adhesion before using. Outdoor horizontal surfaces must always drain completely. A pitch of at least 1/4" per foot (2 cm/m) is required. To resist rain washoff, allow at least 12 – 15 hours drying time above 40°F (4°C), with a relative humidity of 50%. Higher humidity or lower temperatures may retard drying.

POWER EXTRUSION:

CP-181 Duct Sealant may be applied using a wide variety of power (pressure) extrusion equipment suitable for use with water-based sealants. It is a soft buttery gel with a typical viscosity range of 130,000 – 150,000 cps. Corrosion resistant pumps and fittings are suggested.

CLEAN UP

Use fresh water to clean brushes and equipment before product dries. Dry product may be removed with hot soapy water or strong solvents such as chlorinated solvent (non-flammable) or mineral spirits (flammable).

CUSTOMER SERVICE: 800-832-9002

IMPORTANT: H.B. Fuller Construction Products Inc. warrants that each of its products will be manufactured in accordance with the specifications in effect on the date of manufacture. WE MAKE NO OTHER WARRANTIES AND EXPRESSLY DISCLAIM ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If a product fails to meet this limited warranty, purchaser's sole and exclusive remedy is replacement of the product or, at our option, refund of the purchase price. OUR ACCEPTANCE OF ANY ORDERS FOR THE PRODUCT IS EXPRESSLY CONDITIONAL UPON PURCHASER'S ASSENT TO THE TERMS ON THE APPLICABLE INVOICE.

ADEQUATE TESTS: The information contained herein we believe is correct to the best of our knowledge and tests. The recommendations and suggestions herein are made without guarantee or representation as to results. We recommend that adequate tests be performed by you to determine if this product meets all of your requirements. The warranted shelf life of our products is twelve months from date of shipment to the original purchaser or as otherwise provided on the certificate of analysis.

**For professional use only. Keep out of reach of children.
Consult Safety Data Sheet and container label for further information.**