# Childers™

*Guide to*

# Mastics, Coatings, Adhesives and Sealants

*for the Thermal Insulation Industry*

# Mastics and Coatings

| Typical Use Commercial (C) or Industrial (I) | Product Name | Vapor Sealing Insulation Facing and Jacketing (FSK, ASJ, FRK) | Lagging Adhesive/ Coating | Fiberglass and Mineral Wool | Rigid Insulation (Cellular Glass, PIR, Phenolic) | Polystyrene Coating[1] | Calcium Silicate |
|---|---|---|---|---|---|---|---|
| C | Ak-Cryl™ Coating **CP-9** (White, Gray) | ○ | | ◐ | ◐ | ◐ | ◐ |
| C/I | Vi-Cryl® Coating **CP-10** (Trowel), **CP-11** (Brush) (White, Gray, Black) | ○ | | ● | ● | ● | ● |
| C/I | Chil-Pruf™ Coating **CP-22** (Trowel), **CP-24** (Spray) (Black) | | | ○ | ○ | | |
| C/I | Chil-Brate™ Coating **CP-25** (Black) | | | ○ | ○ | | ○ |
| C | Chil-Perm® Coating **CP-30 LO** (White) | ● | | ● | ○ | | |
| C | Chil-Out® Coating **CP-33** (White) | ● | | ○ | ○ | ○ | |
| C | Vapor Retardant Coating **CP-34** (White) | ◐ | | ◐ | | ○ | |
| C/I | Chil-Perm® WB Coating **CP-35** (White) | ● | | ● | ◐ | ● | |
| C/I | Chil-Low™ Coating **CP 38** (White) | ● | | ● | ● | ● | |
| I | Encacel X® Coating **CP-40** (Trowel), (White, Gray) | | | ● | ● | | |
| I | Encacel V® Coating **CP-45** (Brush, Spray) (White, Gray) | | | ● | ● | | |
| C | Chil-Seal® Coating **CP-50A MV1** (White) | | ● | | | ○ | ○ |
| C | Chil-Seal® Coating **CP-50A HV2** (White) | | ● | | | ○ | ○ |
| I | Chil-Lastic™ Coating **CP-79T** (Trowel), **CP-79S** (Spray) (Black) | | | ○ | ○ | | |

● **BEST**
◐ **BETTER**
○ **GOOD**

This guide is provided as a quick reference. Please see product data sheet for specific test methods, installation methods and additional information.

[1] Always choose white colored coating for exterior use on polystyrene insulation. Do not use solvent based products with polystyrene.

| General Description | Volatile Component | LEED 2009 IEQ Credit | Perm Rating[2] | Flash Point |
|---|---|---|---|---|
| Used as mechanical protection and weatherproofing of thermal insulations for indoor and outdoor use. Used for piping, tanks, fittings, vessels, equipment and other irregularly shaped objects. | Water | X | Greater than 1.0 Perm for 1/16" Dry Film (Breather) | None |
| High performance weather barrier mastic/coating. Water-based breather for indoor and outdoor use. Used over most types of insulation systems operating above ambient and cold, or dual temperature systems where the insulation facing provides a vapor barrier. | Water | X | Greater than 1.0 Perm for 1/16" Dry Film (Breather) | None |
| Asphalt cutback based fibrated vapor barrier and weather barrier insulation coating. The cured film forms a highly impermeable, tough, durable and well-bonded finish. Used over insulations (except polystyrene) to protect piping, tanks, fittings and vessels. Also protects underground insulation. | Solvent | | 0.02 to 0.03 Perms | Over 100ºF (37ºC) |
| Water-based asphalt emulsion, weather barrier insulation coating. Protects against corrosives, chemical dusts, fumes, fogs and moisture. Used over all types of insulations to protect piping, fittings, tanks and vessels. | Water | X | NA | None |
| Extremely effective, solvent based, vapor barrier coating for low temperature indoor applications. Provides a tough, flexible, fire resistant, dry film. Used over low temperature insulations (except polystyrene) for pipings, fittings, tanks. | Solvent | | 0.02 Perms at 0.02" Film Thickness | Over 100ºF (37ºC) |
| A white colored vapor retarder coating ideal for vapor sealing insulation facings including new white polyester facings. It provides excellent value for applications above 32ºF to ambient operating conditions. | Water | X | 0.1 | None |
| Water-based vapor retardant coating for use over ASJ, FRK, FSK and other jacketing and board facings to give a vapor retarding seal at joints, laps and weld pin punctures. For use with insulation on pipes, vessels, ducts and equipment operating between 32°F (0°C) and ambient temperatures. | Water | X | 0.08 Perms at .045" Film Thickness | None |
| A high performance, water-based vapor retarder coating for low temperature indoor and outdoor applications. Provides a tough, flexible, dry film. Used over all low temperature insulations for piping, fittings, tanks operating between 32°F (0°C) and ambient temperatures. | Water | X | 0.08 Perms at .055" Film Thickness | None |
| Low permeance water-based vapor retarder for indoor or outdoor use. Low odor, non-toxic and low VOC. Use on cold operating systems over all types of insulation and insulation facings. | Water | X | 0.08 Perms | None |
| Trowelable, elastomeric, combustible vapor barrier coating. Fire resistant dry film with excellent adhesion and flexibility. The ultimate vapor barrier coating for outdoor applications. Used over low temperature insulations (except polystyrene) for spheres, tanks, piping and fittings. | Solvent | | 0.06 Perms at .035" Film Thickness | 110°F (43°C) |
| Sprayable, elastomeric, combustible vapor barrier coating. Fire resistant, dry film with excellent adhesion and flexibility. Used over low temperatue insulations (except polystyrene) for spheres, tanks, piping and fittings. Also used for outdoor sprayed polyurethane applications. | Solvent | | 0.07 Perms at .027" Film Thickness | 110°F (43°C) |
| Combination coating and lagging adhesive. Non-flammable wet, fire-resistive dry. Used to adhere fabrics (canvas and brattice cloth) to round and rectangular insulated ductwork, and to adhere laps of fabrics to themselves and underlying pipe insulations. | Water | X | 1.0 Perms | None |
| A high viscosity combination coating and lagging adhesive. Non-flammable wet, fire-resistive dry. Used to adhere fabrics (canvas and brattice cloth) to round and rectangular insulated ductwork, and to adhere laps of fabrics to themselves and underlying pipe insulations. Meets MIL-A-3316C Class 1, Grade A requirements and is QPD listed. | Water | | 1.0 Perms | None |
| High temperature asphalt sealant and coating operating up to 350°F (177°C). Forms a tough, durable and heavy film. Used as flashing to seal boiler settings to prevent air infiltration. Also used in refractory applications. | Solvent | | 0.02 to 0.03 Perms | Over 100ºF (37ºC) |

[2] See PDS for methods and test conditions.

| Product Name | General Description | Type of Volatile | Flash Point |
|---|---|---|---|
| Chil-Seal® Coating / Adhesive **CP-50A MV1** and **CP-50A HV2** | Combination coating and lagging adhesive. Used to adhere fabrics (canvas and brattice cloth) to round and rectangular insulated ductwork, and to adhere laps of fabrics to themselves and underlying pipe insulations. CP-50A MV1 is lower viscosity than CP-50A HV2. | Water | None |
| Chil-Stix® FRN Adhesive **CP-82** | High strength polychloroprene contact adhesive. Non-flammable wet, fire-resistive dry. Used to bond impermeable surfaces together. Also used to adhere insulations (except polystyrene) to sheet metal and ductwork. Adheres laps of vapor barrier facings and jackets. ASTM C 916, Type I. | Solvent | None |
| Chil-Stix® Clear Adhesive **CP-85** | Fast-setting rubber adhesive for adhering low density fibrous, insulation to sheet metal and to most other construction materials. ASTM C916 Type IV. | Solvent | -7°F ( -22°C ) |
| Fibrous Adhesive **CP-97** | A sodium silicate-based adhesive of exceptional strength. Non-flammable wet and totally incombustible dry. Bonds calcium silicate and expanded perlite to themselves and to other non-porous surfaces. | Water | None |
| Chil Grip™ Adhesive **CP-124** | Spray adhesive. Fast tacking, fire-resistive, sprays without misting, high coverage rate. Flammable. Used to bond impermeable surfaces together. Also used to adhere insulations (except polystyrene) to sheet metal and ductwork. ASTM C916, Type IV. | Solvent | -20°F ( -29°C ) |

# Sealants

| Product Name | General Description | Service Temperature Limits at Coated Surface | Type of Volatile | LEED 2009 IEQ Credit | Service Temperature Limits |
|---|---|---|---|---|---|
| Chil-Joint® Sealant **CP-70** | Flexible joint sealant, flashing compound and vapor seal. Non-shrinking and skins over. Used as a joint and bedding sealant for rigid insulations including cellular glass. PIR, PUR and polystryene. | -100°F to 300°F (- 73°C to 149°C) | Solvent | X | -100°F to 300°F (-73°C to 149°C) |
| Chil-Byl® Sealant **CP-76** | Flexible sealant and elastomeric vapor barrier. Resists ultra-violet, water soak, vibrational stress. Permanently flexible. Used to vapor seal joints of cellular glass and PIR / PUR insulations. Also used as sealant for joints in metal jacketing. Not for use with polystyrene insulation. | See data sheet. -100°F to 300°F (- 73°C to 149°C) | Solvent | | -100°F to 300°F (-73°C to 149°C) |

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| Suggested Use[1] | | | | | Insulation Type | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Attachment | Lap Sealing | Lagging | Joint and Fitting Fabrication | Duct Liner | Fiberglass and Mineral Wool | PIR/ Polyurethane/ Phenolic | Cellular Glass | Polystyrene[1] | Calcium Silicate | Rubber Foam |
| | | ● | | | | ○ | ○ | ○ | ○ | ○ |
| ● | ● | | | ○ | ● | | | | | ● |
| ● | ● | | | ● | ● | | | | | |
| ● | | | ● | | | | | | ● | |
| ● | | | | ● | ● | | | | | |

[1]Do not use solvent based products with polystyrene.

| Typical Use Commercial (C) or Industrial (I) | Product Name | Vapor Sealing Insulation Facing and Jacketing (FSK, ASJ, FRK) | Lagging Adhesive/ Coating | Fiberglass and Mineral Wool | Rigid Insulation (Cellular Glass, PIR, Phenolic) | Polystyrene Coating[1] | Calcium Silicate |
|---|---|---|---|---|---|---|---|
| I | FOSTER® C.I. WRAP™ **50** (Black) | | | ● | ● | ○ | |
| I | FOSTER® C.I. WRAP™ **30** (Black) | | | ● | ● | ○ | |

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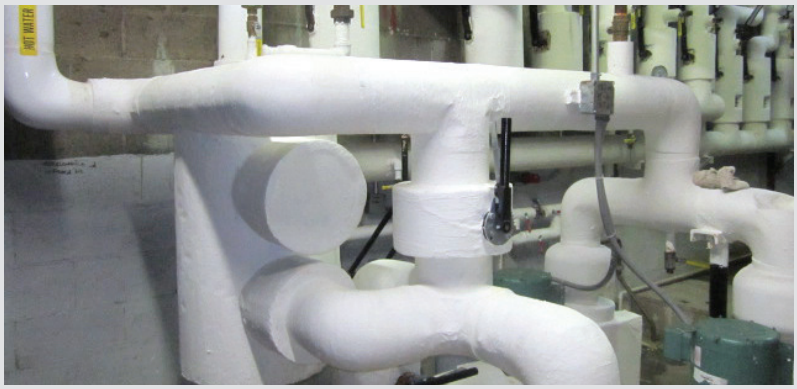
# Reinforcing Membranes

| Product Name | General Description |
|---|---|
| **Mast-a-Fab® 42-24** | A white leno weave, synthetic fiber reinforcing membrane with 9" x 8" mesh size. Easy to handle yet superior to glass mesh because of its elastic properties. |
| **Chil-Glas # 10** | A 10' x 10' glass mesh. Used to reinforce mastic, coatings and sealants. |

| General Description | Volatile Component | LEED IEQ Credit | Perm Rating[2] | Flash Point |
|---|---|---|---|---|
| A 50 mil flexible, modified asphalt, vapor retarder sheet membrane. It is used to provide a moisture and vapor retarder film over cold and cryogenic piping, and equipment insulation. It is also suitable for underground piping. | n/a | n/a | <0.015 | n/a |
| A 30 mil flexible, modified asphalt, vapor retarder sheet membrane. It is used to provide a moisture and vapor retarder film over cold and cryogenic piping, and equipment insulation. | n/a | n/a | <0.02 | n/a |

[2] See PDS for methods and test conditions.



## General Notes

1. The recommendations in this selection guide are of general nature only. Refer to the product data sheets to be certain the selected Childers® product meets all the requirements of the application.
2. Do not apply exterior weather barrier coating on horizontal surfaces that might be subject to prolonged ponding of water.
3. If insulation cement is used, it must be completely dry before applying Childers® mastics or coatings. Prime as required.
4. Because of the variation in surface characteristics of facing materials, we recommend that the user conduct their own adhesion test when choosing a coating or mastic for foil, kraft and plastic-faced insulations.
5. The Childers® products listed in this guide are for professional use only.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