

MATERIALS

Carbon Steel

Channels made from high-quality carbon steel are continuously roll formed to precise dimensions. By cold working the steel mechanical properties are increased, allowing lightweight structures to carry the required load. Corrosion resistance of carbon steel varies widely with coating and alloy. See "Finishes" for more detailed information.

Stainless Steel

Stainless steel channel is available in AISI Type 304 or 316 material. Both are non-magnetic and belong to the austenitic stainless steels group, based on alloy content and crystallographic structure. Like carbon steel, stainless steel exhibits increased strength when cold worked by roll-forming.

Several conditions make the use of stainless steel ideal. These include reducing long term maintenance costs, high ambient temperatures, appearance, and stable structural properties such as yield strength, and high creep strength.

Type 304 resists most organic chemicals, dyestuffs and a wide variety of inorganic chemicals at elevated or cryogenic temperatures. Type 316 contains slightly more nickel and adds molybdenum to give it better corrosion resistance in chloride and sulfuric acid environments. More specific information concerning the differences between types 304 and 316 is available from Cooper B-Line.

Aluminum

Cooper B-Line's standard aluminum channel is extruded from aluminum alloy 6063-T6. Strut fittings are made from aluminum alloy 5052-H32.

The high strength to weight ratio of channel made of aluminum greatly reduces the overall cost of installation through ease of handling and field cutting.

Aluminum owes its excellent corrosion resistance to its ability to form an aluminum oxide film that immediately reforms when scratched or cut. In most outdoor applications, aluminum has excellent resistance to "weathering". The resistance to chemicals, indoor or outdoor, can best be determined by tests conducted by the user with exposure to the specific conditions for which it is intended. The corrosion resistance of aluminum to some commonly known chemicals is shown in the Corrosion Chart. For further information, contact Cooper B-Line Systems, Inc. or the Aluminum Association.

Fiberglass

Cooper B-Line offers two fire retardant (FR) resins for strut systems, polyester and vinyl ester. Both resins are ideal for corrosive environments or nonconductive applications with moderate strength requirements. Some common types of environments where Vinyl Ester Resins are recommended, that Poly Esters are not, are paper mills, most any metal plating operation and any condition with

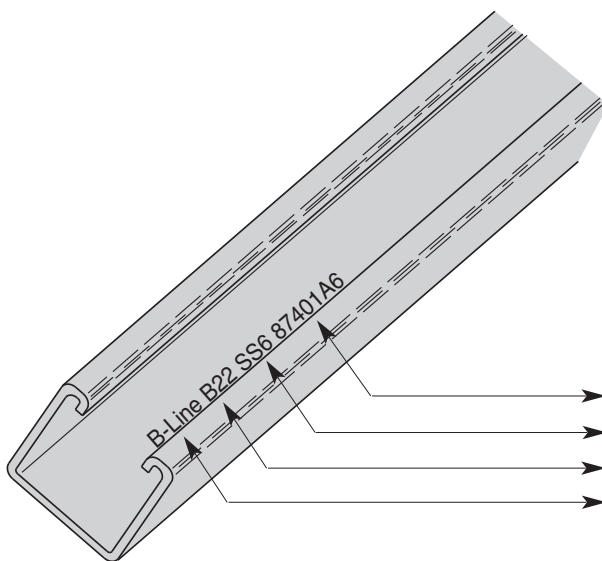
concentrated levels of Chlorine, [Cl⁻]. Please consult our fiberglass corrosion resistance charts on pg. 173 for specific chemical recommendation data.

Unlike other base materials depicted in this catalog, fiberglass exhibits unique physical property changes when operating in elevated temperature conditions, that are a fraction of increase compared to steel or aluminum. This being true, Cooper B-Line advises against using fiberglass in temperatures greater than 200° F.

Please refer to the "Corrosion Resistance Guide" below for specific applications.

Cooper B-Line Fiberglass Strut systems are manufactured from glass fiber-reinforced plastic shapes that meet ASTM E-84, Class 1 Flame Rating and self-extinguishing requirements of ASTM D-635. A surface veil is applied during pultrusion to insure a resin-rich surface and ultraviolet resistance.

While polyester is sufficient for most uses, vinyl ester is suitable for a broader range of environments.



Cooper B-Line Steel Strut is stamped with:

- Traceable to the steel's origin
- Material/Finish
- B-Line part number designation
- Company Name