MATERIAL SPECIFICATIONS

MATERIAL SPECIFICATIONS

CHANNEL

Pre-Galvanized
ASTM A-653 Grade 33 Steel Sheet Zinc Coated by Hot Dip Process

Plain, Powder Coated, or Hot Dip Galvanized
ASTM A-1011/A-1011M Grade 33, Hot Rolled Carbon Steel Sheet and Strip, Structural Quality

Stainless Steel
ASTM A-240, Type 304, and ASTM A-240, Type 316

Aluminum
Aluminum alloy 6005-T5

PIPE CLAMPS

Steel
ASTM A653 Structural Steel, Grade 33
ASTM A1011 Structural Steel, Grade 33

Stainless Steel
ASTM A-240, Type 304 and ASTM A-240 Type 316

ACCESSORIES

Steel
¼" thickness and below ASTM A1011 Structural Steel, Grade 33; ⅜" thickness and above ASTM A-36, Structural Grade.

Stainless Steel
ASTM A-240, Type 304, and ASTM A-240, Type 316

Aluminum
Aluminum alloy 6005-T5 Structural Grade

CHANNEL NUTS

Steel
ASTM A-576, Grade M1015, Case Hardened to RC25 min.

Stainless Steel
ASTM A-240, Type 304, and ASTM A-240, Type 316
Sintered Nuts: MPIF 35 Type 316 (Domestic only)

Aluminum
Aluminum alloy 5052-H32

ALUMINUM

To determine the approximate load data for strut, multiply the load data found in this catalog by a factor of 0.38.

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.

STAINLESS STEEL

Because of its corrosion resistance, stainless steel is recommended for applications where corrosion is a problem. Load data for strut is the same as the load data in this catalog.

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.

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.