

Jones & Laughlin Steel Corporation

AMERICAN IRON AND STEEL WORKS

Jones & Laughlin Building, Pittsburgh, Pa.

WELDED AND SEAMLESS STEEL TUBULAR PRODUCTS

J & L Welded Pipe

Jones & Laughlin manufactures Standard Weight, Extra Strong, and Double Extra Strong Welded Pipe, Black and Galvanized, for steam, gas, air, water, refrigeration and sprinkler work. Sizes: $\frac{1}{8}$ in. to 16 in. O.D. inclusive.

J & L Copper-bearing Steel Pipe, when specified, can be supplied in standard weight, or extra strong, black or galvanized. Use of this product is recommended for long life, where piping is to be exposed to the atmosphere or other alternate wet and dry conditions.

Jones & Laughlin Steel Pipe is made of soft, weldable steel rolled from solid ingots made to a special analysis which, checked over a period of years, has proved to be very uniform in quality. The steel pipe produced from this special grade of J & L Steel is soft and ductile, free cutting, strong at the welds, and free from excess scale. J & L Pipe is commercially straight and free from blisters, cracks or other injurious defects and is well within the allowable tolerances as to dimensions and weights, and true to round in the outside diameter.

Careful attention is given the threading of the pipe with good clean-cut threads fitted with sound couplings correctly tapped to give a tight joint. Soft, ductile steel of free cutting quality enables the contractor to cut clean, sound threads on the job.

The Jones & Laughlin process of galvanizing assures a thorough coating and insures against pipe being clogged with spelter. The surface of the pipe is carefully cleaned so that when the galvanized coating is applied it adheres strongly and does not tend to flake off.

J & L Seamless Pipe

J & L Seamless Pipe is made in three weights; standard, extra strong and double extra strong. Sizes: $\frac{3}{8}$ in. nominal to 14 in. O.D. inclusive.

J & L Seamless Steel Pipe is pierced from a solid billet—there are no welds. The result is dependable and uniform wall strength. The method of manufacture, and the use of only specially selected steel,



assure exceptional ductility, a quality that is essential to successful coiling and bending, and flanging for Van Stone joints.

J & L Seamless Pipe can be used with full satisfaction in either threaded joint or completely welded installations. Ductility, strength and safety—highly developed attributes of J & L Seamless—make this product especially adaptable for air, steam, gas and gasoline lines, boilers, refineries, dry kilns, refrigerating systems and other exacting applications.

J & L Hot Rolled Seamless Steel Boiler Tubes

J & L Seamless Boiler Tubes are manufactured in accordance with the A.S.M.E. Boiler Code and comply with the A.S.T.M. Specifications and the rules and regulations of the Bureau of Navigation and Steamboat Inspection of the U. S. Department of Commerce. They are supplied in a full range of standard sizes, from 1 in. O.D. to 6 in. O.D. inclusive.

The process by which Jones & Laughlin manufactures seamless boiler tubes is largely responsible for the unusually high ductility of the product. It is a process in which a forging action is predominant. This forging action gives to the steel the greater density and higher ductility that may be expected of any forging operation. It makes it stronger yet more pliable and, therefore, more easily formed in its cold state. Forging also effectively eliminates any such imperfections as air holes or blow holes that may be present in the steel.

Inspection of this product begins with the careful selection of the steel for the billets and continues without interruption through every stage of manufacture. It is your assurance of receiving only the very finest boiler tubes that can be manufactured.

Other J & L Tubular Products

J & L also manufactures Reamed and Drifted Pipe in sizes 1 in. to 6 in. inclusive, Dry Kiln Pipe, Pipe for Refrigeration Service, Water Well and Irrigation Casing, Line Pipe and a complete line of Oil Country Tubular Products in welded and seamless.

Republic Steel Corporation

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Canadian Representative:

COMMERCE & TRANSPORTATION BLDG., Toronto, Ont.

General Export Dept.: NEW YORK CITY

THE CONTROL OR PREVENTION OF CORROSION

Control or prevention of corrosion of metallic materials used in heating, ventilating and air conditioning equipment involves a dual responsibility.

The engineer or user of the material should:

- (1) Study and control the p.H. of the water used to wash and cool the air and the p.H. of the steam and resulting condensate on the heating side of the system.
- (2) Control the oxygen content of the water.
- (3) Reduce to a minimum the presence of foreign materials which accelerate corrosion electrolytically.
- (4) Assign reasonable temperature and pressure conditions.

The materials manufacturer should:

- (1) Control rate of corrosion by increasing nobility of the metal—by increasing resistance of the metal to electrochemical solution. Addition of copper to iron makes iron more resistant to atmospheric corrosion, contaminated water and steam condensate.
- (2) Control uniformity of corrosion by minimizing differences in surface, in chemistry and in physical structure.

Toncan Copper Molybdenum Iron

Republic's contribution to heating and ventilating engineers faced with the problem of corrosion is Toncan Copper Molybdenum Iron—a highly refined open-hearth iron alloyed with the correct proportion of copper and molybdenum. Toncan Iron in sheet form affords effective resistance to corrosion encountered in ducts, stacks and fittings used to convey conditioned air. For steam condensate return lines in heating and for water supply, circulating and effluent lines in air conditioning, Toncan Iron Pipe is recommended.



Advantages of Toncan Iron

- (1) Resists to a high degree the many and varied types of corrosion—a resistance not confined to the surface of the metal, but uniform throughout.
- (2) Combines high rust-resistance of an alloy iron with many desirable physical qualities of less resistant ferrous materials.
- (3) Is one of the most workable of materials—sheets form easily, pipe may be handled like any iron.
- (4) Welds easily by any of the usually accepted modern methods. The use of Toncan Iron welding rod insures equal rust- and corrosion-resistance throughout.

Toncan Iron Sheets

Toncan Iron is available in various sheet forms—black in gauges 8 to 26, galvanized 8 to 28 gauge; widths from 24 to 50 in.; and lengths from 10 to 13 ft. depending upon gauge and width.

Toncan Iron Pipe

Toncan Iron Pipe is available black or galvanized, in sizes from $\frac{1}{4}$ -inch to 16-inch O.D. All Toncan Iron Pipe, 2-inch and larger, is electric resistance welded, and combines the advantages of Toncan Iron with the advantages of Republic's exclusive electric welding process.

Source of Supply

Toncan Iron Sheets and Pipe are stocked by jobbers in all large cities. Leading contractors everywhere use Toncan Iron and are glad to supply it where specified. If, for any reason, you cannot obtain Toncan Iron, write to us.

Other Republic Products

Enduro Stainless Steel in sheets and other usual forms, steel pipe, steel sheets, and steel or Toncan Iron boiler tubes.