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Common Steel Industry Abbreviations and Acronyms:

API – American Petroleum Institute

ANSI – American National Standards Institute

ASME – American Society of Mechanical Engineers

ASTM – American Society of Testing and Materials

HR – Hot Rolled

CR – Cold rolled

TS – Tensile Strength

YS – Yield Strength

Dia – Diameter

NPS – Nominal Pipe Size

ID – Inside Diameter

OD – Outside Diameter

SRL – Single Random Length (typically 16-24 ft)

RL – Random Length

DRL – Double Random Length (typically 36-44 ft)

PE – Plain End

PEB – Plain End Beveled (beveled ends)

ERW – Electric-Resistance Welded

Age Hardening: the term as applied to soft, or low carbon steels, relates to a wide variety of commercially important, slow gradual changes that take place in properties of steels after the final treatment. These changes, which bring about a condition of increased hardness elastic limit, and tensile strength with a consequent loss in ductility, occur during the period in which the steel is at normal temperatures.

Annealing: The heating of a material to a specific temperature then cooling it at a controlled rate (in a furnace). Annealing is typically done to remove stresses, alter physical, mechanical and metallurgical properties, increase corrosion resistance, or to thermally treat steel prior to age hardening.

Bright Annealing: Annealing carried out in a controlled furnace atmosphere in order to minimize surface oxidation resulting in a relatively bright surface.

As Rolled: the condition the material is in when it comes off the sizing rollers.

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As-welded: Tubular products not subject to thermal treatment after welding.

Bright Annealing: Annealing carried out in a controlled furnace atmosphere so that surface oxidation is reduced to a minimum and the surface remains relatively bright.

Butt Welding: Joining two edges or ends by placing one against the other and welding them.

Charpy Test: An impact test used to determine how many pounds of pressure will cause the part to break. A notched specimen, fixed at both ends, is struck behind the notch by a striker carried on a pendulum.

Cold Drawing: the process of reducing the cross sectional area of wire, bar or tube by drawing the material through a die without any pre-heating.

Cold Finish: The term “cold finish” is an umbrella definition for any material that has had some sort of surface treatment.

Cold Rolling: Rolling metal at a temperature below its softening point to create work-hardening.

Creep: Slow permanent deformation in a metallic specimen produced by a relatively small steady force, below the elastic limit, acting for a long period of time.

Elongation: A measurement of the ductility of metal usually expressed as a percentage of the original length. One of the mechanical properties of metal.

Fusion Welding: A term which refers to the union of metals by fusion, using acetylene blow-pipe, electric current or the thermite reaction.

Hardness: degree to which metal will resist cutting, abrasion, penetration, bending and stretching.

Mechanical Properties: Properties of a metal determining its behavior under stress. Typical mechanical properties are Elongation, Hardness, Tensile and Yield Strength.

Normalized: Material cooled in “open air”, not a controlled cooling process. Typically quicker and cheaper than annealing as it does not tie up a furnace.

Pickel: The process of chemically removing oxides and scale from the surface of metal by immersion in a diluted acid bath so as to obtain a chemically clean surface.

Precipitation Hardening: the phenomenon which results in an increase in hardness with the passage of time at room or elevated temperature.

Quenching: A process of rapid cooling from an elevated temperature by contact with liquids, gases or solids.

Stress Relieving: A process of reducing residual stresses in a metal object by heating the object to a suitable temperature and holding for a sufficient time. This treatment may be applied to relieve stresses induced by casting, quenching, normalizing, machining, cold working or welding.

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Tensile Strength: measures the force required to pull a material to the point where it breaks. The tensile strength of a material is the maximum amount of tensile stress that it can be subjected to before failure.

Work Hardening: hardening that takes place in a metal when work of any sort, such as bending, rolling, hammering, drawing, punching, and the like is done at a temperature below that at which recrystallization takes place.

Yield Strength: the stress at which a material begins to deform plastically. Prior to the yield point the material will deform elastically and will return to its original shape when the applied stress is removed. Once the yield point is passed some fraction of the deformation will be permanent and non-reversible.

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