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 and cooling of steel to remove stresses, alter physical, mechanical and metallurgical properties, increase corrosion resistance, or to thermally treat steel prior to age hardening.

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

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.

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.

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.

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

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.

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 recrystalization 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.