



## **OIL COUNTRY TUBULAR GOODS (OCTG)**

Oil Country Tubular Goods are used in the drilling and operation of gas and oil wells. OCTG encompasses drill pipe, casing and tubing.

Drill Pipe is used as a rotating stem for drill bits, to drill the well and as a conveyance for air or drilling mud, which lubricates the drill bit and conveys cuttings to the surface. Drill pipe is a seamless steel pipe that has a great torsional strength and high resistance to fatigue that is designed to handle the stresses of torque. Available in 2.375 inch and 5.50 inch OD.

Scheduled Structural steel pipes are found in a variety of places, they are used underground for transporting water and gas throughout cities and towns. They are also employed in construction to protect electrical wires. While steel pipes are strong, they can also be lightweight. This makes them perfect for use in bicycle frame manufacture. Other places they find utility is in automobiles, refrigeration units, heating and plumbing systems, flagpoles, street lamps, to name a few.

## **Comparison of Uniform Building Code Piling Materials vs. (OCTG)**

The purpose of the following specification is to compare the material properties and performance properties of oilfield pipe manufacture to American Petroleum Institute (API) casing specifications to those of structural steel pile materials specified by the Uniform Building Code (UBC) Standard 22-1. Based on the direct comparison of these Properties, the building official can determine that the direct substitution of API pipe Complies with the provisions of the code and is at least equivalent to the prescribed Code in suitability, strength, effectiveness, and durability

## **MATERIAL STRENGTH**

API steel pipe is manufactured to various material strengths and designated by the minimum yield strength. These designations meet or exceed UBC approved material strengths. OCTG pipe products are sold by weight per foot with the wall call out tolerance is at less then + - 2% design wall thickness is as listed or greater.



Scheduled Structural steel pipes, are manufactured to standard strength properties with tolerances + - 10% and sold by the foot. For instance if you were to measure the gauge of a scheduled 80 2.875 the wall call out is .276 but with the + -10% the wall design will actually measure out at .262 This runs true through all scheduled pipe sizes.

Mechanical Properties – Rounds ASTM A500	Grade <b>B</b>	Grade <b>C</b>
Tensile Strength – Min PSI	58,000	62,000
Yield Strength – Min PSI	46,000	50,000
Elongation in 2” Min	23%	21%

Mechanical Properties – Rounds API 5CT	J-55	N-80
Tensile Strength – Min PSI	75,000	95,000
Yield Strength – Min PSI	55,000	80,000
Elongation in 2” Min	0.9%	0.5%

Tensile Strength Def – The maximum amount of stress before failure or breakage.

Yield Strength Def – The stress of a material that can withstand permanent deformation