

# STEEL GRADE COMPARISON & FACT SHEET

# STEEL STANDARDS

## ASTM A252

STEEL PIPE PILES 

## ASTM A500

GRADES B&C 

## CSA G40.21

METRIC 350W 

DESCRIPTION	Standard specification for welded and seamless steel pipe piles	Standard specification for cold-formed welded and seamless carbon steel structural tubing in rounds and shapes	General requirements for rolled welded structural quality steel
INTENDED USE	Steel pipe piles of cylindrical shape, in which the steel cylinder acts as a permanent load-carrying member, or as a shell to form cast-in-place concrete piles	Welded, riveted or bolted construction of bridges and buildings, and for general structural purposes	General specification for plates, shapes, hollow sections, sheets, sheet piling, cold-formed channels and bars used in construction

## TECHNICAL INFORMATION

SPECIFICATIONS	ASTM A252		ASTM A500		CSA G40.21
Strength Levels	Grade 2	Grade 3	Grade B	Grade C	50W/350W
<b>Yield Strength</b>	35,000 psi min.	45,000 psi min.	46,000 psi min.	50,000 psi min.	50,000 psi min.
<b>Tensile Strength</b>	60,000 psi min.	66,000 psi min.	58,000 psi min.	62,000 psi min.	65-95,000 psi
<b>Elongation % in 2" Min.</b>	25	20	23	21	22

CHEMISTRY LEVELS	ASTM A252	ASTM A500		CSA G40.21
	All Grades	Grade B	Grade C	50W/350W
<b>Carbon</b>	N/A	.26 max.	.23 max.	.23 max.
<b>Manganese</b>	N/A	1.35 max.	1.35 max.	0.50-1.50
<b>Phosphorus</b>	.050 max.	.035 max.	.035 max.	.040 max.
<b>Sulphur</b>	N/A	.035 max.	.035 max.	.050 max.
<b>Silicon</b>	N/A	N/A	N/A	.40 max.
<b>Grain Refining Elements</b>	N/A	N/A	N/A	.10 max.

TOLERANCES	ASTM A252	ASTM A500	CSA G40.21
OD Size	All Grades	All Grades	50W/350W
> 1.9-2.5 incl.	+/- 1%	+/- 0.75%	+/- 0.20%
> 2.5-3.5 incl.	+/- 1%	+/- 0.75%	+/- 0.30%
> 3.5-5.5 incl.	+/- 1%	+/- 0.75%	+/- 0.40%
> 5.5	+/- 1%	+/- 0.75%	+/- 1%
<b>Wall Thickness</b>	-12.5%	+/- 10%	+10%/-5%
<b>Weight</b>	+15%/-5%	Not specified	+10%/-3.5%
<b>Straightness</b> (max. allowed)	Not specified	1/8" x length (in feet) ÷ 5	1/8" x length (in feet) ÷ 5

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