

Comparison between API, ARP, & IRP Drill Pipe

Pipe	API				ARP		IRP		
	E75	X95	G105	S135	SSE75	TSS95	SS75	SS95	SS105
Yield	75 - 105 ksi	95 - 125 ksi	105 - 135 ksi	135 - 165 ksi	75 - 105 ksi	95 - 110 ksi	75 - 95 ksi	95 - 110 ksi	105 - 120 ksi
Tensile	100 ksi Min.	105 ksi Min.	115 ksi Min.	145 ksi Min.	100 ksi Min.	105 - 130 ksi	95 - 115 ksi	105 - 130 ksi	115 - 140 ksi
Hardness	*20 - 26 HRc	*20 - 32 HRc	*22 - 35 HRc	*32 - 41 HRc	24 HRc Max.	18 - 26 HRc	22 HRc Max.	25 HRc Max.	27 HRc Max.
Impacts	40 ft-lbs Min.	40 ft-lbs Min.	40 ft-lbs Min.	40 ft-lbs Min.	30 ft-lbs Min.	35 ft-lbs Min.	50 ft-lbs Min.	59 ft-lbs Min.	59 ft-lbs Min.
NACE	NONE	NONE	NONE	NONE	80% of SMYS	85% of SMYS	85% of SMYS	85% of SMYS	85% of SMYS
Frequencies	1/200/heat	1/200/heat	1/200/heat	1/200/heat	1/100/heat	1/100/heat	1/200/heat	1/200/heat	1/200/heat
Tool Joints									
Yield	120 ksi Min.	120 ksi Min.	120 ksi Min.	120 ksi Min.	110 - 130 ksi	110 - 130 ksi	110 - 125 ksi	110 - 125 ksi	110 - 125 ksi
Tensile	140 ksi Min.	140 ksi Min.	140 ksi Min.	140 ksi Min.	130 - 150 ksi	125 - 145 ksi	125 - 145 ksi	125 - 145 ksi	125 - 145 ksi
Hardness	*30 - 37 HRC	*30 - 37 HRC	*30 - 37 HRC	*30 - 37 HRC	34 HRc Max.	33 HRc Max.	30 HRc Max.	30 HRc Max.	30 HRc Max.
Impacts	*40 ft-lbs Min.	*40 ft-lbs Min.	*40 ft-lbs Min.	*40 ft-lbs Min.	40 ft-lbs Min.	40 ft-lbs Min.	66 ft-lbs Min.	66 ft-lbs Min.	66 ft-lbs Min.
NACE	NONE	NONE	NONE	NONE	NONE	NONE	65% of SMYS	65% of SMYS	65% of SMYS
Frequencies	*1/heat lot/order	*1/heat lot/order	*1/heat lot/order	*1/heat lot/order	1/200sets/heat	1/200sets/heat	1/200sets/heat	1/200sets/heat	1/200sets/heat

* Indicates that the particular Mechanical properties are not covered in the Specification. The listed values are Grant Prideco's requirements.