

Stub Welding

Stub Welding Procedure

- Machining of weld area
- Weld area must be clean and dry
- Material in weld area heat up to no more than 200°F to disperse any moisture
- Welding of root and remaining weld area
- Machining/Trepanning of OD and ID
- Visuell Test (no sharp grooves in the transition zone, otherwise grinding to smooth surface)
- X-Ray Test (no binding failures and voids)
- Dye Penatrant Test DYE PENETRANT TEST
- Surface treatment of weld and heat affected zone (hammerpeening, shot-peening, rollerburnishing)

WELD FILLER MATERIALS FOR P530 / P530HS / P550 / P580								
FILLER MATERIAL	C	Cr	Cu	Mn	Mo	Ni	N	Fe
ASN 5-IG	<0,02	19	-	5,0	4,3	16.5	0.16	Bal.
THERMANIT 25/09	<0,02	25	0.2	1.5	3.7	9.5	0.22	Bal.
FERRALIUM	<0,02	25	1.9	1.0	3.2	6.4	0.24	Bal.
OK TIGROD 16.38	0.01	20	-	7.0	2.8	16.0	0.15	Bal.

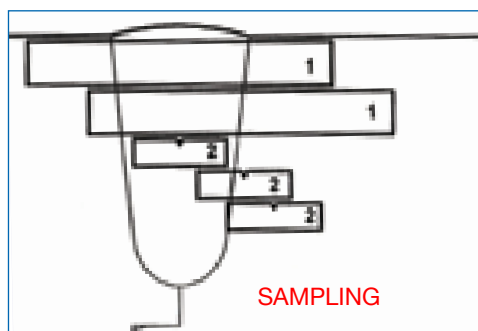
ASN 5-IGSG X 2 CrNiMo 1816/ AWS/SFA 5.9 ER 317 L mod./ BS 2901 Part2 317 S 96 mod.
OK TIGROD 16.38 ...DIN 1.4455

WELD FILLER MATERIALS FOR P750								
FILLER MATERIAL	C	Cr	Cu	Mn	Mo	Ni	N	Fe
725NDUR	0,01	21	Ti 1.5	0.1	8.0	58	3.5	7.5
UTP 6222 MO	0,03	22	-	0.6	9.0	64	3.3	0.6
UTP A776	0,01	16	-	-	16.0	58	W 3.5	6.0

725NDUR.....ANSI/AWS A5.14 ERNiCrMo-15
UTP 6222 Mo...DIN 2.4831/ AWS A5.14 ER NiCrMo3/ Inc 625
UTP A776DIN 2.4886/ AWS A5.14 ER NiCrMo4/ Hast C276

Mechanical Properties

Example Base Material: P550 Weld MAT: ASN 5IG



1. Tensile specimen
2. Impact speimen (Charpy-V-Notch)

PROPERTIES		WELD	TRANSITION ZONE	BASE MATERIAL
YIELD STRENGTH	N/mm ²	552	583	990
	KSI	80	85	144
TENSILE STRENGTH	N/mm ²	737	732	1106
	KSI	107	106	160
ELONGATION	%	20	20	33
REDUCTION IN AREA	%	57	59	71
IMPACT STRENGTH	J	110	152	260
	FT.LB	81	112	192

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FILLES MATERIAL - MECHANICAL PROPERTIES FOR BASE MATERIAL: P550								
WELD MATERIAL	TENSILE TEST				IMPACT TEST		HARDNESS HB 2,5	
	YS (KSI)	TS (KSI)	A ₂ (%)	RA (%)	WELD (FT.LB)	BASE MATERIAL (ft.lb)	WELD	BASE MATERIAL
UTP A 776 W.Nr. 2.4886	83	118	16	41	94	104	250-277	360
	88	119	17	46				
UTP A 6222 W.Nr. 2.4831	88	124	13	42	93	106	243-226	365
	93	127	14	42				
TIGROD 16.38 W.Nr. 1.4455	81	105	15	52	94	110	224-238	350
	78	102	16	53				
ASN 5 IG W.Nr. 1.4453	81	106	16	54	105	108	207-228	350
	77	101	18	54				
FOR BASE MATERIAL: P750								
725 NDUR	90	125	13	32	48	133	270	360

Distribution of hardness/scatterband

