

MATERIAL TEST CERTIFICATE



ANOOP FORGINGS PVT. LTD.

(An ISO 9001: 2008 Certified Co.)

Factory:

J-56, Add. MIDC, Village- Kudawali, Tal. Murbad, Dist. Thane 421401 (India)
 PH (Factory) : ++ 9423839547 / 9423839587
 Fax : 91-22-2164 1741 E-mail :anoopforgings@vsnl.com / anoopforgings@sancharnet.in

CUSTOMER:	FLOW TECHNOLOGY LTD HALF HOUSE LANE, HOVE EDGE, WEST YORKSHIRE BRIGHOUSE. HD6 2PH, UK	PED 97/23/EC and AD 2000 -Merkblatt W0 Certificate No. 07 202 1423 WZ 0847/10 Directive 97/23/EC, Annex 1, Sect 4.3,	MTR NO. 26/EXP/12-13
			DATE 26.07.2012
			MATERIAL SPECIFICATION ASTM A182
			GRADE F 316L
			DIMENSIONAL SPECIFICATION As per your Drawing
			Stainless Steel Forgings - Tees & Elbows

ORDER NO.: 005236 DT. 03.12.2011

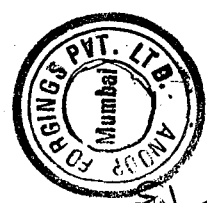
CHEMICAL ANALYSIS

Sr. No.	Item Description	Heat No. /Lot No.	Qty	C%	Mn%	Si%	S%	P%	Ni%	Cr%	Mo%	Ti%	N2%
STAINLESS STEEL FORGINGS - TEES & ELBOWS													
1	7/8" 90 Deg. Elbow Forging (S2322)	HS-5329/2844	508	0.024	1.650	0.400	0.014	0.043	10.060	16.730	2.060	--	0.0540
2	3/4" 90 Deg. Elbow Forging (S2386)	HS-5329/2844	1000	0.024	1.650	0.400	0.014	0.043	10.060	16.730	2.060	--	0.0540
3	1-1/16" 90 Deg. Elbow Forging(S2310)	HS-5329/2844	1028	0.024	1.650	0.400	0.014	0.043	10.060	16.730	2.060	--	0.0540
4	1-1/16" TEE Forging (S2311)	HS-54752854	483	0.022	1.800	0.390	0.024	0.044	10.060	16.780	2.050	--	0.0562

MECHANICAL PROPERTIES

Heat No. /Lot No.	Item Description	Tensile Strength (N/mm2)	Proof Stress Rp=0.2% (N/mm2)	Rp= 1% (N/mm2)	% Elongation %L0=5D	% Reduction Area	Test Temp Deg. C	Charpy V-Notch (Joules)			Hardness BHN	
								I	II	III	Avg.	153.00
HS-5329/2844	7/8" 90 Deg. Elbow Forging (S2322)	548.33	308.44	390.69	48.57	65.01	20°	146.00	184.00	162.00	164.00	153.00
HS-5329/2844	3/4" 90 Deg. Elbow Forging (S2386)	548.33	308.44	390.69	48.57	65.01	20°	146.00	184.00	162.00	164.00	153.00
HS-5329/2844	1-1/16" 90 Deg. Elbow Forging(S2310)	548.33	308.44	390.69	48.57	65.01	20°	146.00	184.00	162.00	164.00	153.00
HS-54752854	1-1/16" TEE Forging (S2311)	524.49	379.14	396.24	54.29	67.73	20°	175.00	201.00	182.00	186.00	156.00

FLOW TECHNOLOGY LTD
 TEST CERTIFICATE
 VERIFIED TRUE
 COPY OF ORIGINAL



[Signature]

F9670
1 1/6" JIC Swivel x Swivel 90° Elbow 10K

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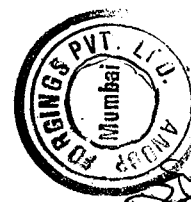
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FLOW TECHNOLOGY LTD	Certificate No. 07 202 1423 WZ 0847/10	DATE	26.07.2012
HALF HOUSE LANE,	Directive 97/23/EC, Annex 1, Sect 4.3,	MATERIAL SPECIFICATION	ASTM A182
HOVE EDGE, WEST YORKSHIRE		GRADE	F 316L
BRIGHOUSE, HD6 2PH, UK		DIMENSIONAL SPECIFICATION	As per your Drawing
ORDER NO.: 005236 DT. 03.12.2011		Stainless Steel Forgings - Tees & Elbows	

- : MELTING PROCESS : ELECTRIC FURNACE & REFINING THROUGH AOD
- : HEAT TREATMENT : SOLUTION ANNEALED AT 1050° C AND WATER QUENCHED
- : DIMENSIONS : CONFIRM WITH THE SPECIFICATIONS
- : SURFACE INSPECTION : SATISFACTORY
- : PMI : NO OBJECTION (100% TESTED)
- : INTER GRANULAR CORROSION TEST : PASSED IGC TEST IN ACCORDANCE WITH A262 PRACTICE E
- : MICRO OBSERVATION : NO CARBIDE PRECIPITATION OBSERVED ON THE GRAIN BOUNDARIES
- : RADIOACTIVITY TEST : ALL THE ABOVE MATERIAL ARE TESTED FOR RADIOACTIVITY AND FOUND THAT THERE IS NO RADIO ACTIVE CONTAMINATION.

WE CERTIFY THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE ORDER/CONTRACT AND IS OF INDIAN ORIGIN.
After Solution Annealing Hardness found less than HRC.22 (237 BHN) according to "NACE MR-01.75-2002"



[Signature]
INSPECTOR'S STAMP

FLOW TECHNOLOGY LTD
TEST CERTIFICATE
VERIFIED TRUE
COPY OF ORIGINAL

[Signature]

WORKS AUTHORIZED INSPECTOR
QAE/FR/12
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