SILCOTUB SA
Quality and Service
BD. MIHAI VITEAZU NO.33
4700 ZALAU
ROMANIA

MILL TEST CERTIFICATE

ACCORDING TO EN 10204/3.1.B

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DATE	ORDER NO. PO 188540	SPECIFICATION	MATERIAL	
19.02.2008		ASTM A 106/1998; ASTM A 53/1998;	GRADE B	WAGGON NO. : SWAP BODY NO. : TRUCK NO. :

BUYER : DUFERCO SA
VIA BAGUTTI 9
6900 LUGANO
SWITZERLAND

No.	SIZE	HEAT NUMBER	NUMBER OF PIECES	NUMBER OF PIECES	LENGTH IN METERS	WEIGHT IN TM (METRIC TON)	NUMBER OF BUNDLESS	ITEM	LOT
1	2" SCH 80 (60.30 x 5.54 mm)	34295	76	456	5472.000	40.931	24	3	
		34291	228						
		34275	152						

DESCRIPTION

TUBOS DE ACERO (SEAMLESS STEEL PIPES)
(DUFERCO REF.NO. 188540)

PRODUCT ANALYSES

CHEMICAL COMPOSITION %

No.	HEAT	Sample no.	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	V
1	34295	42254	0.197	0.604	0.233	0.015	0.016	0.141	0.114	0.009	0.188	0.001
	34295	42255	0.197	0.602	0.233	0.015	0.016	0.139	0.113	0.009	0.186	0.001
2	34291	42250	0.191	0.586	0.224	0.015	0.015	0.139	0.115	0.009	0.188	0.001
	34291	42251	0.193	0.600	0.227	0.015	0.015	0.140	0.115	0.009	0.189	0.001
3	34275	42246	0.177	0.601	0.305	0.010	0.008	0.065	0.112	0.011	0.191	0.001
	34275	42247	0.179	0.606	0.307	0.010	0.008	0.065	0.112	0.011	0.194	0.001

OTHER TESTS

No.	Flattening	Bending	Flaring	Hardness	Hidrostatic PSI	NONDESTRUCTIVE TEST
1	-	GOOD	-	-	2500	-
2	-	GOOD	-	-	2500	-
3	-	GOOD	-	-	2500	-

MECHANICAL PROPERTIES

TEST SPECIMEN

No.	HEAT	Sample no.	Dimensions inch x inch	Section inch²	Length inch
1	34295	42254	0.76 x 0.21	0.17	2.00
2	34291	42250	0.76 x 0.21	0.16	2.00
3	34275	42246	0.76 x 0.23	0.18	2.00

TENSION — TRACTION

No.	Tensile Strenght Required Min.	Tensile Strenght Required Max.	Tensile Strenght Result PSI	Yield Strenght Required Min.	Yield Strenght Required Max.	Yield Strenght Result PSI	Elongation Required Min.	Elongation Result %
1	60000		78087	35000		58385	22.00	34.80
2	60000		70034	35000		52952	22.00	35.00
3	60000		69880	35000		49229	22.00	29.30

CHARPY V-NOTCH

No.	1	2	3	Average	TEMP. °F	SHEAR %
1						
2						
3						

I IDENTIFY THAT THE MATERIAL HEREIN DESCRIBED HAS BEEN MANUFACTURED WITH THE DUFERCO SPECIFICATION AND THAT THE TEST INFORMATION IS CORRECT AND CONTAINED IN THE RECORDS OF THE COMPANY

SIGNATURE

QUALITY DEPT. CHIEF
Ing. TIBERIU ERDEI

S.C. SILCOTUB S.A.
CONTROL TEHNIC
Zalău - România