EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş.

OUTSTANDING CAPITAL : 3.500.000.000 TL

T E S T C E R T I F I C A T E

EN 10204 : 2004 TYPE 3.1

DATE : 22/08/2021

CERTIFICATE NO : 21Y000126367

PRODUCTION PLANT :	ERDEMIR
CUSTOMER :	SALZGITTER MANNESMANN INTERNATIONAL GMBH
ORDER NO :	2107058087B
DIMENSIONS : mm :	2 X 1500 X C mm
STANDARD & GRADE :	EN 10130-2006 DC01 (ERDEMİR 6112)
PRODUCT TYPE & DEFINITION :	CCR: CONTINUOUSLY ANNEALED A SURFACE COIL
TECHNICAL SPECIFICATION :	21070040180
LOT NO ve ITEM NO :	-

COATING WEIGHT(GR/M2) -
AMOUNT OF OIL (MG/M2) 3000
SURFACE ROUGHNESS 0.61-01.9

PRODUCT DESCRIPTION					PRODUCT DESCRIPTION															
					TENSILE TEST												BH TEST			HARDNESS	BEND TEST
					SAMPLE POS. DIR.	YIELD	TENSILE	% ELON	AG	n-50	R-90	R_AVS	R_AVG	n (10-Ag)	n (10-20)	n (4-6)	Y/T				RBM
TICKET NO	WEIGHT(MT) (KG)	HEAT NO	COIL NO or PACKAGE NO	P.S or P.P		N/MM2	N/MM2	A80										BH_YS	BH	BH2	D
1210314308447	13,170	134080	2116252100		TT	261	340	34.1													
1210314308454	13,140	124830	3117436210O		TT	256	344	36.8													
1210314308455	13,350	134080	2116252200		TT	261	340	34.1													
1210314308456	13,250	115053	3117436410O		TT	255	339	38.2													
1210314308457	13,430	115053	3117436420O		TT	255	339	38.2													
1210314308458	13,330	115053	2117423510O		TT	254	343	37.3													
1210314308459	13,490	115053	2117423520O		TT	254	343	37.3													
1210314308460	13,160	124830	2117436110O		TT	257	344	37.0													
1210314308461	13,330	124830	2117436120O		TT	257	344	37.0													
1210314308468	13,300	124830	3117423610O		TT	255	342	36.2													
1210314308469	13,470	124830	3117423620O		TT	255	342	36.2													
1210314308470	13,370	124830	2117436310O		TT	256	343	38.2													

AE INFORMATION

Pcm=C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B
(IIW/Ceq=C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15 Ceq=C+Mn/6
Ceq=C+(Mn+Si)/6
UCS: 230C°+1905-75P+45Nb-12.3Si-5.4Mn-1

AE1: Nb+V+Ti	AE2: Cu+Cr+Ni
AE3: Cr+Cu+Mo+Ni	AE4: Cr+Mo+Ni
AE5: Al/N	AE6: Cu+Ni
AE7: P+S	AE8: Si+2.5P
AE9: TiN	AE10: Ti/8
AE11: Mn/S	AE12: Cu+Ni+Cr+Mo+V
AE13: Mn+Cr	AE14: Cr+Cu+Mo
AE15: Nb+V	AE16: Nb+V+Ti+B
AE17: Nb+Ti	AE18: C+P
AE19: Mn+Cr+Mo	AE20: Mn/C
AE21: 3.4N + 1.5S	AE22: Al+Si
AE23: Mn+Si	AE24: Cu+Ni+Mo

AE25: C + (Mn/5) + (5*P)+(N/10)-(Mo/15)+(Cu/10) (Segregation Index)

CHEMICAL COMPOSITION, CAST ANALYSIS

HEAT NO	C	Mn	P	S	Si	Al
	%	%	%	%	%	%
115053	0,041	0,130	0,010	0,009	0,015	0,043
124830	0,049	0,184	0,011	0,009	0,020	0,033
134080	0,042	0,169	0,011	0,013	0,015	0,039

WE (THE MANUFACTURER) HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY THE BASIC OXYGEN PROCESS AND TESTED IN ACCORDANCE WITH THE RULES OF EN 10130-2006 DC01 (ERDEMİR 6112) WITH SATISFACTORY RESULTS.

EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş. KALİTE METALURJİSİ MÜDÜRLÜĞÜ

SERKAN DİKEÇ
QUALITY METALLURGY MANAGER

KAAN TANRIÖVER
CHIEF ENGINEER OF METALLURGICAL LABORATORY

EREĞLİ DEMİR VE ÇELİK FABRİKALARI T.A.Ş. METALURJİ LABORATUVARI MÜDÜRLÜĞÜ

NOTE : T : Top , M : Middle , E : End , T : Transverse , L : Longitudinal , P,S : Piece of Slice , P.P: Piece of Plate, RBM: Radius of Bending Mandrel, D : Diameter

ERDEMİR

www.erdemir.com.tr