

 CEMAG Anlagenbau GmbH			
Customer:	Shemal Cement Co.	Item no.:	50.30.01 Mill
Project:	Shemal Upgrading	Rev.:	0
Project no.:	12.037.02.368	Date:	20.10.2005
1.2 Technical description of the mill			

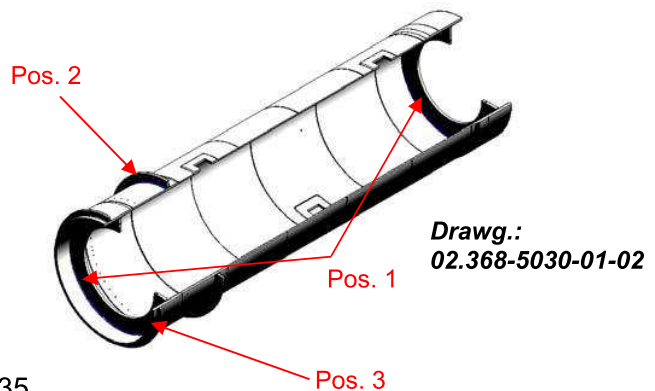
3 Mill body

3.1 Mill shell

3.1.1 Technical description

The mill shell has an inside diameter of Ø 4.400 mm and a cylindrical length of 16.500 mm and consists of rolled up steel sheets with a thickness of 55 / 75 / 90 mm and three openings for the manholes. The welding edges of the sheets have been mechanically prepared before being rolled up. Two flanges (Pos. 1) have been welded into the inside of the mill shell (in the area of both bearings) as a support for the shell and as a fixation for the inlet and outlet wall constructions. The mill shell is stress relieved in one piece before being mechanically machined.

The positions on the mill shell for the bearings are mechanically machined. The mill shell has been completely bored in the area of the grinding chambers, for taking up the mill shell lining. On the outside of the mill shell there are two flanges for the fixing of the gear rim (Pos. 2) and the axial thrust bearing (Pos. 3).



3.1.2 Material

Steel for pressure purposes P265GH + Z35,
 EN 10028-2: 92 / NF10164: 93
 All used materials with material test certificate

3.1.3 Weight

136.621 kg

For detailed information, see chapter 2 of part documentation!!!

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DILLINGER HÜTTE

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A02 ABNAHMEPRUEFZEUGNIS 3.1.B DIN EN 10204 - EN 10204 - DIN 50049 CERTIFICAT DE RECEPTION 3.1.B NF EN 10204 INSPECTION CERTIFICATE 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT		A09 Advice of dispatch No./ Date of dispatch 139501-17.05.04	A08/ Manufacturer's order/ A03 Certificate No. 280553-005	Sheet 1/...
A05 Established inspecting body DH	A06 Purchaser SOTRALENTZ MET., DRUL Final receiver SOTRALENTZ MET., DRUL	A07.1 No. 147392 A07.2 No.		B01 Product HOT ROLLED PLATES
B02/ Steel grade P265GH+Z35 B03 Specifications EN-10028-2:92/NF-EN10164:93		11282		

B01-B99 Product description

B09 Item No.	B10 Quantity	B11 Thickness	B12 Width MM	B13 Length	B14 Mass theoretical KG	B04 Delivery condition	B08 Heat No.	B07 Rolled plate No./ Test No.	B16 Customer reference
03 ***	1 1	105,00	x 2720	x 7415	16624 16624	N Actual weight: 17080 KG	54054	90276-01	ACUI

SHEMAL V1
11282 S

B06 Marking

ITEM NO.: 03-04
STEEL GRADE P265GH Z35
HEAT NO. / TRADEMARK / ROLLED PLATE NO.-TEST NO. / INSPECTOR'S STAMP

C10-C29 Tensile test

B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01 C02/ C01	C03 Temp. GR.C	C10 C11 MPA REH	C12 RM	C13 A % L0=5D	C14-C15 Z %
03	54054	90276		K4	Q	RT	281	434	30,0
03	54054	90278	*	K2	SV	RT			57,1
			*	K2	SV	RT			64,1
			*	K2	SV	RT			53,8
04	54054	90271	*	K2	S	RT			65,8
			*	K2	S	RT			64,0
			*	K2	S	RT			70,4

C40-C49 Impact test

B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01	C02/ C01	C03 Temp. GR.C	C41 Specimen width	C40 Type of specimen	C44 Testing method	C46 Energy Joule	C45 C42 Individual values AV=J	C43 Average value
03	54054	90276		K4	QV	0		CHP-V		600	AV 260 208 220	229

A04

 Trademark

QM-System: Certification as per ISO 9001 since 14 March 1990

Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

B. MUELLER
Der Werkssachverständige

AHB

Inspector's stamp

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 17.05.04

PP 1



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A02 ABNAHMEPRUEFZEUGNIS 3.1.B DIN EN 10204 - EN 10204 - DIN 50049 CERTIFICAT DE RECEPTION 3.1.B NF EN 10204 INSPECTION CERTIFICATE 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT					A09 Advice of dispatch No./ Date of dispatch 139501-17.05.04		A08/ Manufacturer's order/ A03 Certificate No. 280553-005		Sheet 2
A05 Established inspecting body DH		A06 Purchaser SOTRALENTZ MET., DRUL Final receiver SOTRALENTZ MET., DRUL		A07.1 No. 147392 A07.2 No.			B01 Product HOT ROLLED PLATES		
B02/ Steel grade		P265GH+Z35							
B03 Specifica- tions		EN-10028-2:92/NF-EN10164:93							

C70-C99 Chemical composition % - Heat analysis

B08 Heat	C70	C	SI	MN	P	S	AL	CU	MO	NI	CR	V	NB	TI
54054	Y	0,118	0,297	1,16	0,014	0,0011	0,038	0,015	0,008	0,030	0,038	0,001	0,000	0,008

C94 Heat analysis Carbon equivalent / Alloying restrictions

B08 Heat 54054	FO-55=	0,09
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C94 Carbon equivalent formula / Alloying restrictions

FO-55 = CU+MO+NI+CR

D01 Checking of marking, surface, shape and dimensions

ITEM NO.: 03-04
RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS
SURFACE AS PER EN-10163-B2
THICKNESS AS PER EN-10029-B:91
LENGTH AND WIDTH AS PER EN-10029:91
FLATNESS AS PER EN-10029-T4L:91

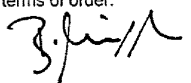
D02 Ultrasonic testing

ITEM NO.: 03-04
UT-SPECIFICATION : EN-10160 CLASS S1 AND E2
SCANNING PLAN BODY : LONGITUDINALLY SCAN LINES SPACING 100 MM
EDGES : 100 MM
PERSONNEL QUALIFICATION : LEVEL 2 IN ACCORDANCE TO EN 473
THE TEST RESULTS MEET THE REQUIREMENTS OF THE ORDER.

A04

Trademark

201/202 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.
QM-System: Certification as per ISO 9001 since 14 March 1990


B. MUELLER
Der Werkssachverständige



Inspector's stamp

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 17.05.04

PP 1

A01



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A02 ABNAHMEPRÜFZEUGNIS 3.1.B DIN EN 10204 - EN 10204 - DIN 50049 CERTIFICAT DE RECEPTION 3.1.B NF EN 10204 INSPECTION CERTIFICATE 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT		A09 Advice of dispatch No./ Date of dispatch 140317-24.05.04	A08/ Manufacturer's order/ A03 Certificate No. 280553-006	Sheet 1/...
A05 Established inspecting body DH	A06 Purchaser SOTRALENTZ MET., DRUL Final receiver SOTRALENTZ MET., DRUL	A07.1 No. 147392 A07.2 No.		B01 Product HOT ROLLED PLATES
B02/ Steel grade P265GH+Z35 B03 Specifications EN-10028-2:92/NF-EN10164:93		11282		

B01-B99 Product description

B09 Item No.	B10 Quantity	B11 Thickness	B12 Width MM	B13 Length	B14 Mass theoretical KG	B04 Delivery condition	B08 Heat No.	B07 Rolled plate No./ Test No.	B16 Customer reference
04 ***	1 1	75,00	x 2175	x 14510	18581 18581	N Actual weight: 19200 KG	54054	90273-01	ACVT

SHEMAL V2
11282-S

B06 Marking

ITEM NO.: 03-04

STEEL GRADE P265GH Z35

HEAT NO. / TRADEMARK / ROLLED PLATE NO.-TEST NO. / INSPECTOR'S STAMP

C10-C29 Tensile test

B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01 C02/ C01	C03 Temp. GR.C	C10 C11 MPA REH	C12 RM	C13	A % L0=5D	C14-C15	Z %
03	54054	90278	*	K2	SV	RT					57,1
			*	K2	SV	RT					64,1
			*	K2	SV	RT					53,8
04	54054	90271	*	K2	S	RT					65,8
			*	K2	S	RT					64,0
			*	K2	S	RT					70,4
04	54054	90273		K4	Q	RT	307	444	33,3		

C40-C49 Impact test

B09 Item No.	B08 Heat No.	B07 Rol.plate/ Test No.	B05 Reference condition	C01	C02/ C01	C03 Temp. GR.C	C41 Specimen width	C40 Type of specimen	C44 Testing method	C46 Energy Joule	C45 Individual values AV=J	C43 Average value
04	54054	90273		K4	QV	0		CHP-V		600	AV 222	210
											284	239

A04



Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001 since 14 March 1990

B. MUELLER

Der Werkssachverständige



Inspector's stamp

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Date 24.05.04

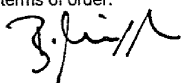
PP 1

A01



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A02 ABNAHMEPRUEFZEUGNIS 3.1.B DIN EN 10204 - EN 10204 - DIN 50049 CERTIFICAT DE RECEPTION 3.1.B NF EN 10204 INSPECTION CERTIFICATE 3.1.B BS EN 10204 - ISO 10474 MATERIAL TEST REPORT		A09 Advice of dispatch No./ Date of dispatch 140317-24.05.04	A08/ Manufacturer's order/ A03 Certificate No. 280553-006	Sheet 2										
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B02/ Steel grade P265GH+Z35 B03 Specifica- tions EN-10028-2:92/NF-EN10164:93														
C70-C99 Chemical composition % - Heat analysis														
B08 Heat 54054	C70 Y	C 0,118	SI 0,297	MN 1,16	P 0,014	S 0,0011	AL 0,038	CU 0,015	MO 0,008	NI 0,030	CR 0,038	V 0,001	NB 0,000	TI 0,008
C94 Heat analysis Carbon equivalent / Alloying restrictions														
B08 Heat 54054	FO-55= 0,09													
C94 Carbon equivalent formula / Alloying restrictions														
FO-55 = CU+MO+NI+CR														
D01 Checking of marking, surface, shape and dimensions														
ITEM NO.: 03-04 RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS SURFACE AS PER EN-10163-B2 THICKNESS AS PER EN-10029-B:91 LENGTH AND WIDTH AS PER EN-10029:91 FLATNESS AS PER EN-10029-T4L:91														
D02 Ultrasonic testing														
ITEM NO.: 03-04 UT-SPECIFICATION : EN-10160 CLASS S1 AND E2 SCANNING PLAN BODY : LONGITUDINALLY SCAN LINES SPACING 100 MM EDGES : 100 MM PERSONNEL QUALIFICATION : LEVEL 2 IN ACCORDANCE TO EN 473 THE TEST RESULTS MEET THE REQUIREMENTS OF THE ORDER.														
A04  Trademark	Z01/Z02 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order. QM-System: Certification as per ISO 9001 since 14 March 1990  B. MUELLER Der Werkssachverständige			 Inspector's stamp	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department Date 24.05.04	A01 PP 1								