

Inspection certificate 3.2
DIN EN 10204
(A02)

No. (A03) **1109464**
Page 1/5
Date 12.04.2018

Product **Heavy plate**
(B01)

Works order No. **0000093638**
(A08)

Steel grade and terms of delivery **SA 516-60 MTLTV**
(B02-B03) **ASME SA 516 ,SA 20**
ASME sect. II part A ed.2017
BS EN 10029 C- 2010
BS 1501-1 11/80
ST-5106

Dispatch note No. **0087511585**
10.04.2018
Inspection **LR**
(A05) **DTM1814003**

Marking of the product (B06)
Trademark/Steelgrade/Heat-No/Product-No/
inspector's stamp

Material data (B01-B99)

Item	Quantity (B08)	Product No. (B07)	Heat No. (B07)	Cond. of delivery (B04)	Thickness x Width x Length (B09-B11)	mm x mm x mm
01	1	859778 1	66853	N	6,00 x 2000,0 x 12000	
01	1	859779 1	66853	N	6,00 x 2000,0 x 12000	
01	1	859780 1	66853	N	6,00 x 2000,0 x 12000	
02	1	859346 1	66853	N	6,00 x 2500,0 x 12000	
02	1	859347 2	66853	N	6,00 x 2500,0 x 12000	
02	1	859348 1	66853	N	6,00 x 2500,0 x 12000	
02	1	859348 2	66853	N	6,00 x 2500,0 x 12000	
03	1	859949 1	66853	N	6,00 x 3000,0 x 12000	
03	1	859949 2	66853	N	6,00 x 3000,0 x 12000	
03	1	859950 2	66853	N	6,00 x 3000,0 x 12000	
03	1	859951 1	66853	N	6,00 x 3000,0 x 12000	
03	1	859951 2	66853	N	6,00 x 3000,0 x 12000	
04	1	859503 1	66853	N	10,00 x 2055,0 x 12000	
05	1	859201 1	66853	N	13,00 x 2500,0 x 12000	
05	1	859201 2	66853	N	13,00 x 2500,0 x 12000	
09	1	858649 2	66853	N	15,00 x 2500,0 x 12000	
11	1	858697 1	66853	N	16,00 x 2055,0 x 12000	
11	1	858697 2	66853	N	16,00 x 2055,0 x 12000	
12	1	858650 1	66853	N	16,00 x 2500,0 x 12000	
12	1	858650 2	66853	N	16,00 x 2500,0 x 12000	
13	1	858636 1	66853	N	20,00 x 2500,0 x 12000	
13	1	858637 1	66853	N	20,00 x 2500,0 x 12000	
13	1	858638 1	66853	N	20,00 x 2500,0 x 12000	
01	3	Weight	3.390	kgs	N: normalized	
02	4	(B12)	5.652			
03	5		8.480			
04	1		1.936			
05	2		6.124			
09	1		3.533			
11	2		6.194			
12	2		7.536			
13	3		14.130			
Σ	23		56.975			

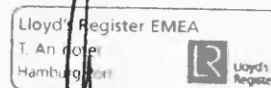
We hereby certify that the delivered material complies with the terms of the order.
(Z01)

QM-System: Certification as per ISO 9001 since 28 February 1990



Trademark
(A04)

Ilsenburger Grobblech GmbH
Veckenstedter Weg 10
D-38871 Ilsenburg
(A01)



Aj Inspection Stamp
(Z03)

Inspection Representative
(Z02)
Cyron



**ILSENBURGER
GROBBLECH**

Ein Unternehmen der Salzgitter Gruppe

Inspection certificate 3.2
DIN EN 10204
(A02)

No. (A03) **1109464**
Page **2/5**
Date **12.04.2018**

Product **Heavy plate**
(B01)

Works order No. **0000093638**
(A08)

Steel grade and terms of delivery **SA 516-60 MTLTV**
(B02-B03) **ASME SA 516, SA 20**
ASME sect. II part A ed.2017
BS EN 10029 C- 2010
BS 1501-1 11/80
ST-5106

Dispatch note No. **0087511585**
10.04.2018
Inspection **LR**
(A05) **DTM1814003**

Dimensional check and visual examination of the surface condition:
without objection

Ladle analysis (C70-C99)

Manufacturer standard

Heat No. (B07)	C %	Si % 0,15 - 0,40	Mn % 0,85 - 1,20	P % ≤ 0,025	S % ≤ 0,025	N % ≤ 0,005	Al % ≤ 0,025	Cu % ≤ 0,40	Cr % ≤ 0,30	Ni % ≤ 0,40
66853	0,14	0,20	0,92	0,013	0,001	0,004	0,064	0,01	0,03	0,13
Heat No. (B07)	Mo % ≤ 0,12	V % ≤ 0,03	Ti % ≤ 0,03	Nb % ≤ 0,02	Ca % ≤ 0,001	B % ≤ 0,001	EV1 1) %			
66853	0,002	0,003	0,004	0,02	0,002	0,0002	0,31			

1) EV1: CEV=C+Mn/6+Mo/5+Ni/15+Cr/5+V/5+Cu/15

Steel making: Basic oxygen process

(C70)

Material is vacuum degassed

Tensile test (C10-C29)

Specimen No. (C00)	Heat No. (B07)	Location (C01)	Direct. (C02)	Cond. (B05)	Type (C10)	Yield strength (C11) Rp0,2 N/mm2 ≥ 220	Tensile strength (C12) Rm N/mm2 415 - 550	Elongation (C13) 8 in % ≥ 21		
		1) 2) 3)	4)	5)	6)					
858636	66853	K6G	Q	N	P	324	466	29		
858637	66853	K6G	Q	N	P	323	462	30		
858638	66853	K6G	Q	N	P	333	463	30		
858649	66853	K6G	Q	N	P	331	471	30		
858650	66853	K6G	Q	N	P	326	465	31		
858697	66853	K6G	Q	N	P	326	463	34		
859201	66853	K6G	Q	N	P	336	478	27		

1) K: Top
2) 6: 1/6 Width
3) G: Thickness of product

4) Q: transversal
5) N: normalized
6) P: prismatic

We hereby certify that the delivered material complies with the terms of the order.
(Z01)

QM-System: Certification as per ISO 9001 since 28 February 1990



Trademark
(A04)

Ilseburger Grobblech GmbH
Veckenstedter Weg 10
D-38871 Ilseburg
(A01)



Inspection Stamp
(Z03)

Inspection Representative
(Z02)
Cyron

Inspection certificate 3.2
DIN EN 10204
(A02)

No. (A03) **1109464**
Page **3/5**
Date **12.04.2018**

Product **Heavy plate**
(B01)

Works order No. **0000093638**
(A08)

Steel grade and terms of delivery **SA 516-60 MTLTV**
(B02-B03) **ASME SA 516, SA 20**
ASME sect. II part A ed.2017
BS EN 10029 C- 2010
BS 1501-1 11/80
ST-5106

Dispatch note No. **0087511585**
10.04.2018
Inspection **LR**
(A05) **DTM1814003**

Tensile test (C10-C29)

Specimen No. (C00)	Heat No. (B07)	Location (C01)	Direct. (C02)	Cond. (B05)	Type (C10)	Yield strength (C11) Rp0,2 N/mm2 ≥ 220	Tensile strength (C12) Rm N/mm2 415 - 550	Elongation (C13) 8 in % ≥ 21		
		1) 2) 3)	4)	5)	6)					
859346	66853	K6G	Q	N	P	349	488	22		
859347	66853	K6G	Q	N	P	346	482	23		
859348	66853	K6G	Q	N	P	339	479	22		
859503	66853	K6G	Q	N	P	335	473	27		
859778	66853	K6G	Q	N	P	347	483	24		
859779	66853	K6G	Q	N	P	350	480	26		
859780	66853	K6G	Q	N	P	342	474	21		
859949	66853	K6G	Q	N	P	357	482	21		
859950	66853	K6G	Q	N	P	367	486	22		
859951	66853	K6G	Q	N	P	337	483	34		

1) K : Top
2) 6 : 1/6 Width
3) G : Thickness of product

4) Q : transversal
5) N : normalized
6) P : prismatic

Impact test (C40-C49)

Specimen No. (C00)	Heat No. (B07)	Location (C01)	Direct. (C02)	Cond. (B05)	Type of specimen (C40-C41)	Temperature (C03) °C	Impact energy (C42-C43)				MW 6)
		1) 2) 3)	4)	5)			1	2	3		J
858636	66853	K6V	Q	N	Charpy V-notch	-051	118	25	27		57
858637	66853	K6V	Q	N	Charpy V-notch	-051	95	141	169		135
858638	66853	K6V	Q	N	Charpy V-notch	-051	136	125	123		128
858649	66853	K6V	Q	N	Charpy V-notch	-051	88	68	152		103
858650	66853	K6V	Q	N	Charpy V-notch	-051	143	114	124		127
858697	66853	K6V	Q	N	Charpy V-notch	-051	55	129	153		112
859201	66853	K6V	Q	N	Charpy V-notch	-051	128	142	256		175
859346	66853	K6O	Q	N	Charpy V-notch	-051	50	46	42		46
859347	66853	K6O	Q	N	Charpy V-notch	-051	48	55	93		65

1) K : Top
2) 6 : 1/6 Width
3) O : near surface
V : 1/4 Thickness

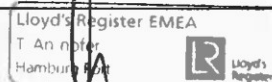
4) Q : transversal
5) N : normalized
6) MW : Average

We hereby certify that the delivered material complies with the terms of the order.
(Z01)

QM-System: Certification as per ISO 9001 since 28 February 1990

 Trademark
(A04)

Ilseburger Grobblech GmbH
Veckenstedter Weg 10
D-38871 Ilseburg
(A01)



 Inspection Stamp
(Z03)

 Inspection Representative
(Z02)

Cyron

Inspection certificate 3.2
DIN EN 10204
(A02)

No. (A03) **1109464**
Page 4/5
Date 12.04.2018

Product **Heavy plate**
(B01)

Works order No. 0000093638
(A08)

Steel grade and terms of delivery **SA 516-60 MTLTV**
(B02-B03) **ASME SA 516, SA 20**
ASME sect. II part A ed.2017
BS EN 10029 C- 2010
BS 1501-1 11/80
ST-5106

Dispatch note No. 0087511585
10.04.2018
Inspection LR
(A05) **DTM1814003**

Impact test (C40-C49)

Specimen No. (C00)	Heat No. (B07)	Location (C01)	Direct. (C02)	Cond. (B05)	Type of specimen (C40-C41)	Temperature (C03) °C	Impact energy (C42-C43)			
							1	2	3	MW 6)
		1) 2) 3)	4)	5)			J			J
859348	66853	K60	Q	N	Charpy V-notch	-051	55	50	39	48
859503	66853	K60	Q	N	Charpy V-notch	-051	189	102	187	159
859778	66853	K60	Q	N	Charpy V-notch	-051	56	73	53	61
859779	66853	K60	Q	N	Charpy V-notch	-051	64	55	51	57
859780	66853	K60	Q	N	Charpy V-notch	-051	54	60	55	56
859949	66853	K60	Q	N	Charpy V-notch	-051	53	41	61	52
859950	66853	K60	Q	N	Charpy V-notch	-051	44	58	57	53
859951	66853	K60	Q	N	Charpy V-notch	-051	38	41	30	36

1) K: Top
2) 6: 1/6 Width
3) 0: near surface
V: 1/4 Thickness

4) Q: transversal
5) N: normalized
6) MW: Average

Specimen size:

5,0 x 10 x 55 mm (from 5,00 mm up to 8,99 mm plate thickness)
7,5 x 10 x 55 mm (from 9,00 mm to 10,99 mm plate thickness)
10 x 10 x 55 mm (from 11,00 mm plate thickness)

Other tests (C50-C69)

Specimen No. (C00)	Heat No. (B07)	Location (C01)	Direct. (C02)	Cond. (B05)	Hardness test (C30-C39) HB30 ≤ 237				
		1) 2) 3)	4)	5)					
858636	66853	K4		N	141				

1) K: Top
2) 4: 1/4 Width

5) N: normalized

This material complies with NACE MR0175/ISO 15156-2:2009
Annex A-A.2.1.2.

NACE MR-0103 -2012 (2.1.1-2.1.4)

We hereby certify that the delivered material complies with the terms of the order.
(Z01)

QM-System: Certification as per ISO 9001 since 28 February 1990



Trademark
(A04)

Ilseburger Grobblech GmbH
Veckenstedter Weg 10
D-38871 Ilseburg
(A01)



Inspection Stamp
(Z03)

[Signature]
Inspection Representative
(Z02)

Cyron



ILSENBURGER
GROBBLECH

Ein Unternehmen der Salzgitter Gruppe

Inspection certificate 3.2
DIN EN 10204
(A02)

No. (A03) 1109464
Page 5/5
Date 12.04.2018

Product Heavy plate
(B01)

Works order No. 0000093638
(A08)

Steel grade and terms of delivery SA 516-60 MTLTV
(B02-B03) ASME SA 516, SA 20
ASME sect. II part A ed.2017
BS EN 10029 C- 2010
BS 1501-1 11/80
ST-5106

Dispatch note No. 0087511585
10.04.2018
Inspection LR
(A05) DTM1814003

Heat treatment: Temperature : 910 +/-10°C
Soaking time: 30 min/inch
Cooling in still air

This is to certify that the material described above has been manufactured and tested with satisfactory results in accordance with the above mentioned Standard and Quality.

Our products are free of radioactive substances and do not exceed the clearing limit value of 100 Bq/kg, which guarantees the compliance with limit values given in the Radiation Protection Ordinance (StrlSchV) for the unrestricted clearance of solid material (StrlSchV Annex III, Section 5) for ferrous nuclides.



'This certificate is issued under the arrangements authorised by Lloyd's Register EMEA in accordance with the requirements of the Materials Quality Scheme and scheme Number MQS 057'

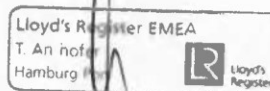
We hereby certify that the delivered material complies with the terms of the order.
(Z01)

QM-System: Certification as per ISO 9001 since 28 February 1990



Trademark
(A04)

Ilseburger Grobblech GmbH
Veckenstedter Weg 10
D-38871 Ilseburg
(A01)



Inspection Stamp
(Z03)

Inspection Representative
(Z02)
Cyron