



Europe – Plate

# Inspection Certificate

(A02)

EN 10204:2004/3.1

Date of creation: (Z02) 13.08.2019

Certificate No.: (A03) 099099

Our order No.: (A08) 9297271 Your order No.: (A07) P073006 Order registration date: 11.06.2019 Date of dispatch: 13.08.2019 B

## Material requirements and customer information

**Product:** (A03) Plate **Steel standard and grade:** (B02) EN10025-2:2004 S355K2 **Surface tolerance:** EN 10163-2 B3

**Delivery condition:** (B04) Furnace normalized (N) **Length tolerance:** EN 10029 Table 3

**Customer name and address** (A06) **Certificate address**  
 4102 4102001  
 BE Group Oy AB certificates@begroup.fi;  
 BOX 54 Finland  
 15101 LAHTI CERTIFICATES@BEGROUP.FI  
 Finland

**Thickness tolerance:** EN 10029 Class A

**Flatness tolerance:** EN 10029 Table 4 Class N

## Supplementary information: (C04)

Aiming Class S for Flatness

Fully Killed and Fine Grain

Plates <= 25mm are Normalised at 900°C for 3 minutes.

Plates > 25mm are Normalised at 900°C for 5 minutes.

Visual examination and dimensional checking: Satisfactory. The results of tests performed are in compliance with the requirements. (Z01)

## Details of supplied materials dimensions, weights and pieces

Heat/Slab (B07)	Plate No. (B06)	Item	Thickness mm (B09)	Width mm (B10)	Length mm (B11)	Pieces (B08)	Gross kg (B12)	Hard stamp	Stamp location	Customer remark (B99)
55460A3	0027D	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006
55460C3	0043D	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006
55459D3	0083D	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006
55459G1	0086D	4	25.0	2450	12000	2	11 540	S355K2+N	Head	P073006
55458F4	8174C	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006
55461F5	8176C	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006
55151E4	8303C	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006
55151D3	8353C	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006
55151B3	8430C	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006



(A01)

(A04)

Inspection representative NLMK DanSteel A/S (A05)

Zibrandt Greisen *Z. Greisen*



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## Details of supplied materials dimensions, weights and pieces

Heat/Slab (B07)	Plate No. (B06)	Item	Thickness mm (B09)	Width mm (B10)	Length mm (B11)	Pieces (B08)	Gross kg (B12)	Hard stamp	Stamp location	Customer remark (B99)	
55460A2	9467C	4	25.0	2450	12000	1	5 770	S355K2+N	Head	P073006	
55459D2	0084D	5	30.0	2450	12000	1	6 924	S355K2+N	Head	P073006	
55458A4	0108D	5	30.0	2450	12000	1	6 924	S355K2+N	Head	P073006	
55458A3	0109D	5	30.0	2450	12000	1	6 924	S355K2+N	Head	P073006	
55458C3	8183C	5	30.0	2450	12000	1	6 924	S355K2+N	Head	P073006	
55460B5	8230C	5	30.0	2450	12000	1	6 924	S355K2+N	Head	P073006	
55457J2	9389C	5	30.0	2450	12000	1	6 924	S355K2+N	Head	P073006	
						17	105 014				



DanSteel  
Havnvej 33  
DK - 5300 Fredensborg

(A01)



(A04)

Inspection representative NLMK DanSteel AIS (A05)

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## Chemical composition (heat analysis) all results in %

Heat No. (B07)	C	Mn	Si	P	S	Cr	Cu	Ni	Mo	Al	Nb	V	Ti	N	B
Set values:	min.		0.15							0.020					
	max.	0.20	1.60	0.25	0.025	0.300	0.400	0.300	0.080	0.100	0.060	0.100	0.050	0.0120	0.0008
55151	0.17	1.50	0.21	0.018	0.004	0.027	0.045	0.016	0.001	0.045	0.020	0.002	0.001	0.0029	0.0003
55457	0.18	1.50	0.22	0.012	0.013	0.027	0.048	0.019	0.003	0.037	0.039	0.001	0.002	0.0042	0.0002
55458	0.17	1.49	0.22	0.009	0.008	0.029	0.041	0.024	0.005	0.041	0.039	0.001	0.002	0.0038	0.0002
55459	0.17	1.49	0.20	0.021	0.011	0.029	0.046	0.022	0.003	0.040	0.041	0.002	0.001	0.0051	0.0002
55460	0.17	1.51	0.20	0.015	0.009	0.027	0.039	0.021	0.005	0.036	0.043	0.001	0.001	0.0040	0.0002
55461	0.17	1.49	0.21	0.017	0.008	0.025	0.045	0.017	0.003	0.041	0.044	0.002	0.001	0.0038	0.0002

## Heat No. (B07) CEV

Set values: min. 0.45  
max. 0.45

55151	0.43	1 3 4 6
55457	0.44	1 3 4 6
55458	0.43	1 3 4 6
55459	0.43	1 3 4 6
55460	0.43	1 3 4 6
55461	0.43	1 3 4 6

## Supplementary information (C99)

CEV = C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15

1 = Basic Oxygen Steel, 2 = Electric Arc Furnace, 3 = Ladle Refined, 4 = Calcium Treated, 5 = Vacuum Degassed, 6 = Continuous Cast, 7 = Ingot



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(A01)



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## Tensile testing

Tensile tests were performed in accordance with EN 10002/ISO 6892-1 with results as stated below:

Heat/slab (E07)	Plate ID (E06)	Thickness mm	Shape (C10)	Loc. (C01)	Dir. (C02)	Yield MPa (C11)	Yield type	UTS Rm MPa (C12)	Elong. type	Elongation % (C13)	Yield/UTS
55460A3	0027D-1-1	25.0	R	H	T	371	REH	524	A5	29	0.71
55460C3	0043D-1-1	25.0	R	H	T	363	R02	519	A5	30	0.70
55459D3	0083D-1-1	25.0	R	H	T	374	R02	530	A5	28	0.71
55459D2	0084D-1-1	30.0	R	H	T	383	R02	535	A5	29	0.72
55459G1	0086D-1-1	25.0	R	H	T	374	R02	530	A5	28	0.71
55459G1	0086D-2-1	25.0	R	H	T	374	R02	530	A5	28	0.71
55458A4	0108D-1-1	30.0	R	H	T	384	REH	534	A5	32	0.72
55458A3	0109D-1-1	30.0	R	H	T	384	REH	534	A5	32	0.72
55458F4	8174C-1-1	25.0	R	H	T	384	REH	534	A5	32	0.72
55461F5	8176C-1-1	25.0	R	H	T	389	R02	539	A5	27	0.72
55458C3	8183C-1-1	30.0	R	H	T	384	REH	534	A5	32	0.72
55460B5	8230C-1-1	30.0	R	H	T	363	R02	519	A5	30	0.70
55151E4	8303C-1-1	25.0	R	H	T	354	REH	533	A5	31	0.66
55151D3	8353C-1-1	25.0	R	H	T	362	REH	533	A5	30	0.68
55151B3	8430C-1-1	25.0	R	H	T	358	R02	530	A5	29	0.68
55457J2	9389C-1-1	30.0	R	H	T	399	REH	542	A5	35	0.74
55460A2	9467C-1-1	25.0	R	H	T	371	REH	524	A5	29	0.71

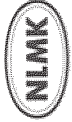
### Supplementary Information (C99)

Loc.: (C01) H = head, T = tail

Dir.: (C02) T = transversal, L = longitudinal

Shape: (C10) Ø = round, R = rectangular

Original gauge length: 200 mm



DanSteel

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(A04)



(A01)

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Z. Swish

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## Impact testing Impact tests were performed in accordance with EN 10045/ISO 148-1 with results as stated below:

Heat/slab (B07)	Plate ID (B06)	Position (C01)	Notch (C40)	Shape (C41)	Loc. (C01)	Dir. (C02)	Temp. °C (C03)	SV (C42)		SV (C42)		AV (C43)	
								J	J	J	J	J	J
55460A3	0027D-1-1	1	CV	10x10	H	L	-20	166	190	195	184		
55460C3	0043D-1-1	1	CV	10x10	H	L	-20	190	147	171	169		
55459D3	0083D-1-1	1	CV	10x10	H	L	-20	132	143	135	137		
55459D2	0084D-1-1	1	CV	10x10	H	L	-20	132	143	135	137		
55459G1	0086D-1-1	1	CV	10x10	H	L	-20	177	170	166	171		
55459G1	0086D-2-1	1	CV	10x10	H	L	-20	177	170	166	171		
55458A4	0108D-1-1	1	CV	10x10	H	L	-20	208	206	222	212		
55458A3	0109D-1-1	1	CV	10x10	H	L	-20	208	206	222	212		
55458F4	8174C-1-1	1	CV	10x10	H	L	-20	208	206	222	212		
55461F5	8176C-1-1	1	CV	10x10	H	L	-20	199	203	201	201		
55458C3	8183C-1-1	1	CV	10x10	H	L	-20	208	206	222	212		
55460B5	8230C-1-1	1	CV	10x10	H	L	-20	190	147	171	169		
55151E4	8303C-1-1	1	CV	10x10	H	L	-20	184	209	180	191		
55151D3	8353C-1-1	1	CV	10x10	H	L	-20	214	211	205	210		
55151B3	8430C-1-1	1	CV	10x10	H	L	-20	215	202	219	212		
55457J2	9389C-1-1	1	CV	10x10	H	L	-20	219	225	236	227		
55460A2	9467C-1-1	1	CV	10x10	H	L	-20	166	190	195	184		

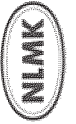
### Supplementary Information (C99)

Position: (C01) 1 = surface, 2 = middle, 3 = 1/3 of thickness, 4 = 1/4 of thickness

Notch: (C40) CU = Charpy U-notch, CV = Charpy V-notch, CVA = Charpy V-notch (ASTM)

Loc.: (C01) H = head, T = tail

Dir.: (C02) T = transversal, L = longitudinal



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(A01)



(A04)

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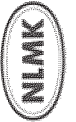
We hereby certify that the material has been made and tested in accordance with the mentioned specification(s).  
Certified according to Construction Products Regulations (305/2011/EU) by TÜV NORD Systems GmbH (Notified Body Reg. No. 0045).  
For Declaration of Performance please see [www.DanSteel.dk](http://www.DanSteel.dk) and DoP number 010CPR2013-07-01.



TÜV-NORD 0045-CPR-0554  
Year of initial inspection: 2005

Intended use: Welded, bolted and riveted structures.

Our products are Cobalt, Gold, Mercury free and are free of radioactive substances and do not exceed the clearing limit value of 100 Bg/kg, which guarantees the compliance with limit values given in the Radiation Protection Ordinance (StriSchV) for the unrestricted clearance of solid material (StriSchV Annex II, Section 5) for ferrous nuclides.  
Manufactured in Denmark



**DanSteel**  
Havnevej 33  
DK - 5300 Fredensborg

<sup>(A01)</sup>



<sup>(A04)</sup>

Inspection representative NLMK DanSteel AIS <sup>(A05)</sup>

Zibrandt Greisen

## Information description

acc. to EN 10168

A	Commercial transactions and parties involved	
	A01 Manufacturer's works	
	A02 Type of inspection document	
	A03 Document number	
	A04 Manufacturer's mark	
	A05 Originator of the inspection document	
	A06 Customer consignee	
	A07 Purchaser's order number and, where applicable, item number	
	A08 Manufacturer's works order number	
	A09 Customer article number	
	A10 to A99 Supplementary information	
B	Description of Products	
	B01 Product	
	B02 Steel designation	
	B03 Any supplementary requirements	
	B04 Product delivery condition	
	B05 Reference (heat) treatment of samples	
	B06 Marking of the product	
	B07 Identification of the product	
	B08 Number of pieces	
	B09 to B11 Product dimensions	
	B12 Theoretical mass	
	B13 Actual mass	
	B14 to B99 Supplementary information	
C	Inspection	
	C00 Identification of the sample	
	C01 Location of the sample	
	C02 Direction of the test pieces	
	C03 Test temperature	
	C04 to C09 Supplementary information	
	C10 Shape of the test piece	
	C11 Yield or proof strength	
	C12 Tensile strength	
	C13 Elongation after fracture	
	C14 to C29 Supplementary information	
	C30 Method of test	
	C31 Individual values	
	C32 Mean value	
	C33 to C39 Supplementary information	
	C40 Type of test piece	
	C41 Width of test piece	
	C42 Individual values	
	C43 Mean value	
	C44 to C49 Supplementary information	
	C50 to C69 Supplementary information	
	C70 Steelmaking process	
	C71 to C92 Chemical composition	
	C93 to C99 Supplementary information	
D	Other tests	
	D01 Marking and identification, surface appearance, shape and dimensional properties	
	D02 to D50 Non-destructive tests	
	D51 to D99 Supplementary information	
Z	Validation	
	Z01 Statement of compliance	
	Z02 Date of issue and validation	
	Z03 Stamp of the inspection representative	
	Z04 CE marking	
	Z05 to Z99 Supplementary information	