



Europe – Plate

# Inspection Certificate (A02)

EN 10204:2004/3.1

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Date of creation: (Z02) 09.05.2022Certificate No.: (A03) 143315Our order No.: (A08) 2381921Your order No.: (A07) P097004

Order registration date: 17.02.2022

Date of dispatch: 09.05.2022 B

## Material requirements and customer information

<b>Product:</b> <small>(A03)</small> Plate	<b>Steel standard and grade:</b> <small>(B02)</small> EN10025-2:2019 S355K2	<b>Surface tolerance:</b> EN 10163-2 B3
<b>Delivery condition:</b> <small>(B04)</small> Furnace normalized (N)		<b>Length tolerance:</b> EN 10029 Table 3
<b>Customer name and address</b> <small>(A06)</small>	<b>Certificate address</b>	<b>Width tolerance:</b> EN 10029 Table 2
4102	4102001	<b>Thickness tolerance:</b> EN 10029 Class A
BE Group Oy AB	certificates@begroup.fi;	<b>Flatness tolerance:</b> EN 10029 Table 4 Class N
BOX 54		
15101 LAHTI	Finland	
Finland	CERTIFICATES@BEGROUP.FI	

### Supplementary information: (C04)

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 <small>(B07)</small>	Plate No. <small>(B06)</small>	Item	Thickness mm <small>(B09)</small>	Width mm <small>(B10)</small>	Length mm <small>(B11)</small>	Pieces <small>(B08)</small>	Gross kg <small>(B12)</small>	Hard stamp	Stamp location	Customer remark <small>(B99)</small>
60934F3	6355N	7	30.0	2450	12000	1	6 924	S355K2+N	Head	P097004
60783D2	8317N	7	30.0	2450	12000	1	6 924	S355K2+N	Head	P097004
61091B3	5685N	8	30.0	2000	6000	2	5 652	S355K2+N	Head	P097004
61098H3	6085N	8	30.0	2000	6000	3	8 478	S355K2+N	Head	P097004
61098G3	6091N	8	30.0	2000	6000	3	8 478	S355K2+N	Head	P097004
61015E1	6202N	8	30.0	2000	6000	3	8 478	S355K2+N	Head	P097004
61091E1	4579N	13	30.0	1500	3000	4	4 240	S355K2+N	Head	P097004
61094A4	7183N	13	30.0	1500	3000	6	6 360	S355K2+N	Head	P097004
						23	55 534			



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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	0.025	0.290	0.400	0.300	0.080	0.100	0.060	0.100	0.050	0.0120 0.0008
60783	0.17	1.51	0.23	0.015	0.007	0.028	0.022	0.014	0.004	0.044	0.043	0.001	0.001	0.0037	0.0002
60934	0.17	1.51	0.24	0.014	0.006	0.043	0.042	0.037	0.004	0.039	0.041	0.001	0.001	0.0029	0.0003
61015	0.18	1.51	0.20	0.013	0.006	0.045	0.043	0.028	0.005	0.039	0.041	0.002	0.001	0.0035	0.0002
61091	0.17	1.53	0.20	0.012	0.006	0.026	0.024	0.012	0.004	0.036	0.043	0.001	0.002	0.0048	0.0002
61094	0.17	1.51	0.22	0.016	0.012	0.031	0.041	0.016	0.005	0.038	0.043	0.002	0.002	0.0042	0.0002
61098	0.16	1.50	0.21	0.011	0.007	0.049	0.040	0.017	0.007	0.037	0.043	0.002	0.002	0.0042	0.0003

Heat No. (B07)	CEV	Remark (C70)
Set values:	min.	
	max.	0.45
60783	0.43	1 3 4 5 6
60934	0.44	1 3 4 6
61015	0.44	1 3 4 6
61091	0.43	1 3 4 6
61094	0.43	1 3 4 6
61098	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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## Tensile testing Tensile tests were performed in accordance with EN 10002/ISO 6892-1 with results as stated below:

Heat/slab (B07)	Plate ID (B06)	Thickness mm	Shape (C10)	Loc. (C01)	Dir. (C02)	Yield MPa (C11)	Yield type	UTS Rm MPa (C12)	Elong. type	Elongation % (C13)	Yield/UTS
61091E1	4579N-1-1	30.0	R	H	T	388	R02	538	A5	32	0.72
61091E1	4579N-1-2	30.0	R	H	T	388	R02	538	A5	32	0.72
61091E1	4579N-1-3	30.0	R	H	T	388	R02	538	A5	32	0.72
61091E1	4579N-1-4	30.0	R	H	T	388	R02	538	A5	32	0.72
61091B3	5685N-1-1	30.0	R	H	T	388	R02	538	A5	32	0.72
61091B3	5685N-1-2	30.0	R	H	T	383	REH	539	A5	30	0.71
61098H3	6085N-1-1	30.0	R	H	T	388	R02	539	A5	28	0.72
61098H3	6085N-1-2	30.0	R	H	T	388	R02	539	A5	28	0.72
61098H3	6085N-1-3	30.0	R	H	T	388	R02	539	A5	28	0.72
61098G3	6091N-1-1	30.0	R	H	T	388	R02	539	A5	28	0.72
61098G3	6091N-1-2	30.0	R	H	T	388	R02	539	A5	28	0.72
61098G3	6091N-1-3	30.0	R	H	T	388	R02	539	A5	28	0.72
61015E1	6202N-1-1	30.0	R	H	T	375	R02	541	A5	29	0.69
61015E1	6202N-1-2	30.0	R	H	T	375	R02	541	A5	29	0.69
61015E1	6202N-1-3	30.0	R	H	T	375	R02	541	A5	29	0.69
60934F3	6355N-1-1	30.0	R	H	T	382	REH	540	A5	28	0.71
61094A4	7183N-1-1	30.0	R	H	T	386	R02	543	A5	33	0.71
61094A4	7183N-1-2	30.0	R	H	T	386	R02	543	A5	33	0.71
61094A4	7183N-1-3	30.0	R	H	T	386	R02	543	A5	33	0.71
61094A4	7183N-1-4	30.0	R	H	T	386	R02	543	A5	33	0.71
61094A4	7183N-1-5	30.0	R	H	T	386	R02	543	A5	33	0.71
61094A4	7183N-1-6	30.0	R	H	T	386	R02	543	A5	33	0.71
60783D2	8317N-1-1	30.0	R	H	T	390	REH	538	A5	31	0.72



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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 <small>(B07)</small>	Plate ID <small>(B06)</small>	Thickness <small>mm</small>	Shape <small>(C10)</small>	Loc. <small>(C01)</small>	Dir. <small>(C02)</small>	Yield <small>MPa (C11)</small>	Yield <small>type</small>	UTS Rm <small>MPa (C12)</small>	Elong. <small>type</small>	Elongation <small>% (C13)</small>	Yield/UTS
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### 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  
Havnevej 33  
DK - 3300 Frederiksværk

(A01)



(A04)

Inspection representative NLMK DanSteel A/S (A05)

Zibrandt Greisen



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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 J (C42)	SV J (C42)	SV J (C42)	AV J (C43)
61091E1	4579N-1-1	1	CV	10x10	H	L	-20	224	227	212	221
61091E1	4579N-1-2	1	CV	10x10	H	L	-20	224	227	212	221
61091E1	4579N-1-3	1	CV	10x10	H	L	-20	224	227	212	221
61091E1	4579N-1-4	1	CV	10x10	H	L	-20	224	227	212	221
61091B3	5685N-1-1	1	CV	10x10	H	L	-20	224	227	212	221
61091B3	5685N-1-2	1	CV	10x10	H	L	-20	224	227	212	221
61098H3	6085N-1-1	1	CV	10x10	H	L	-20	209	210	208	209
61098H3	6085N-1-2	1	CV	10x10	H	L	-20	209	210	208	209
61098H3	6085N-1-3	1	CV	10x10	H	L	-20	209	210	208	209
61098G3	6091N-1-1	1	CV	10x10	H	L	-20	209	210	208	209
61098G3	6091N-1-2	1	CV	10x10	H	L	-20	209	210	208	209
61098G3	6091N-1-3	1	CV	10x10	H	L	-20	209	210	208	209
61015E1	6202N-1-1	1	CV	10x10	H	L	-20	219	167	168	185
61015E1	6202N-1-2	1	CV	10x10	H	L	-20	219	167	168	185
61015E1	6202N-1-3	1	CV	10x10	H	L	-20	219	167	168	185
60934F3	6355N-1-1	1	CV	10x10	H	L	-20	193	195	174	187
61094A4	7183N-1-1	1	CV	10x10	H	L	-20	127	175	182	161
61094A4	7183N-1-2	1	CV	10x10	H	L	-20	127	175	182	161
61094A4	7183N-1-3	1	CV	10x10	H	L	-20	127	175	182	161
61094A4	7183N-1-4	1	CV	10x10	H	L	-20	127	175	182	161
61094A4	7183N-1-5	1	CV	10x10	H	L	-20	127	175	182	161
61094A4	7183N-1-6	1	CV	10x10	H	L	-20	127	175	182	161
60783D2	8317N-1-1	1	CV	10x10	H	L	-20	205	196	167	189



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## Impact testing (A01) Impact tests were performed in accordance with EN 10045/ISO 148-1 with results as stated below:

Heat/slab	Plate ID	Position	Notch	Shape	Loc.	Dir.	Temp.	SV	SV	SV	AV
<small>(B07)</small>	<small>(B06)</small>	<small>(C01)</small>	<small>(C40)</small>	<small>(C41)</small>	<small>(C01)</small>	<small>(C02)</small>	<small>°C (C03)</small>	<b>J</b> <small>(C42)</small>	<b>J</b> <small>(C42)</small>	<b>J</b> <small>(C42)</small>	<b>J</b> <small>(C43)</small>

### 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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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 (StrlSchV) for the unrestricted clearance of solid material (StrlSchV Annex III, Section 5) for ferrous nuclides.  
Manufactured in Denmark



**DanSteel**  
Havnevej 33  
DK - 3300 Frederiksøer

<sup>(A01)</sup>



<sup>(A04)</sup>

Inspection representative NLMK DanSteel A/S <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