

Our order No.: (A08) 2103561      Your order No.: (A07) 45539      Order registration date: 22.12.2022      Date of dispatch: 23.04.2023 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+N	<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
4002	4002001	<b>Thickness tolerance:</b> EN 10029 Class B
FEON OY	FEON OY	<b>Flatness tolerance:</b> EN 10029 Table 4 Class N
Teollisuuskatu 33	Finland	
00510 Helsinki		
Finland	certificates@feon.fi;janne.myllynen@feon.fi;a.faktarauskas@eu.nlmk.com	

### 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>
63410I3	5282E	1	12.0	2000	6000	1	1 130	S355K2+N	Head	45539
63397H4	4142E	3	18.0	2000	6000	2	3 392	S355K2+N	Head	45539
63413B1	6311E	22	12.0	2500	6000	3	4 239	S355K2+N	Head	45539
62852N4	5585E	26	10.0	2500	8000	2	3 140	S355K2+N	Head	45539
62852J2	6436E	26	10.0	2500	8000	2	3 140	S355K2+N	Head	45539
						10	15 041			

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

Heat No. <small>(B07)</small>	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	0.400	0.080	0.100	0.060	0.100	0.050	0.0120 0.0008
62852	0.15	1.48	0.20	0.017	0.003	0.018	0.032	0.015	0.002	0.034	0.043	0.002	0.002	0.0045	0.0002
63397	0.15	1.45	0.19	0.014	0.002	0.019	0.010	0.010	0.001	0.038	0.046	0.001	0.002	0.0042	0.0001
63410	0.17	1.47	0.21	0.014	0.005	0.033	0.026	0.015	0.002	0.045	0.042	0.002	0.002	0.0036	0.0003
63413	0.17	1.54	0.19	0.010	0.003	0.021	0.013	0.007	0.001	0.044	0.044	0.002	0.002	0.0046	0.0002

Heat No. <small>(B07)</small>	CEV	Remark <small>(C70)</small>
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Set values:	min.	
	max.	0.45
62852	0.40	1 3 4 6
63397	0.40	1 3 4 6
63410	0.42	1 3 4 6
63413	0.44	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 <small>(B07)</small>	Plate ID <small>(B06)</small>	Thickness mm	Shape <small>(C10)</small>	Loc. <small>(C01)</small>	Dir. <small>(C02)</small>	Yield MPa <small>(C11)</small>	Yield type	UTS Rm MPa <small>(C12)</small>	Elong. type	Elongation % <small>(C13)</small>	Yield/UTS
63397H4	4142E-1-1	18.0	R	H	T	356	REH	509	A5	31	0.70
63397H4	4142E-1-2	18.0	R	H	T	356	REH	509	A5	31	0.70
63410I3	5282E-1-2	12.0	R	H	T	410	REH	548	A5	30	0.75
62852N4	5585E-1-1	10.0	R	H	T	420	REH	526	A5	40	0.80
62852N4	5585E-1-2	10.0	R	H	T	420	REH	526	A5	40	0.80
63413B1	6311E-1-1	12.0	R	H	T	410	REH	543	A5	31	0.76
63413B1	6311E-1-2	12.0	R	H	T	410	REH	543	A5	31	0.76
63413B1	6311E-1-3	12.0	R	H	T	410	REH	543	A5	31	0.76
62852J2	6436E-1-1	10.0	R	H	T	420	REH	526	A5	40	0.80
62852J2	6436E-1-2	10.0	R	H	T	420	REH	526	A5	40	0.80

**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

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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 <small>(B07)</small>	Plate ID <small>(B06)</small>	Position <small>(C01)</small>	Notch <small>(C40)</small>	Shape <small>(C41)</small>	Loc. <small>(C01)</small>	Dir. <small>(C02)</small>	Temp. °C <small>(C03)</small>	SV J <small>(C42)</small>	SV J <small>(C42)</small>	SV J <small>(C42)</small>	AV J <small>(C43)</small>
63397H4	4142E-1-1	1	CV	10x10	H	L	-20	245	253	228	242
63397H4	4142E-1-2	1	CV	10x10	H	L	-20	245	253	228	242
63410I3	5282E-1-2	1	CV	10x10	H	L	-20	226	229	224	226
62852N4	5585E-1-1	1	CV	7.5x10	H	L	-20	187	199	196	194
62852N4	5585E-1-2	1	CV	7.5x10	H	L	-20	187	199	196	194
63413B1	6311E-1-1	1	CV	10x10	H	L	-20	237	236	252	242
63413B1	6311E-1-2	1	CV	10x10	H	L	-20	237	236	252	242
63413B1	6311E-1-3	1	CV	10x10	H	L	-20	237	236	252	242
62852J2	6436E-1-1	1	CV	7.5x10	H	L	-20	187	199	196	194
62852J2	6436E-1-2	1	CV	7.5x10	H	L	-20	187	199	196	194

### 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

## 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