





AINESTODISTUS TEST REPORT

2/3

A 15823 -001

27.12.2019

Tilaja Purchaser BE GROUP OY AB PL 54 15101 LAHTI FINLAND Tilaus nro Order No. P077077	Vastaanottaja Consignee BE GROUP OY AB PAAKARLANTIE 3 20240 TURKU FINLAND Asiakkaan merkki Shipping mark	Päivämäärä Date 31.12.2019
Tilausvahvistus Order Confirmation 15823		Valmistajan merkki Mark of the Manufacturer
Laji Grade S355K2+N		Jakuvavalettua happiterästä Oxygen steel, continuous casting



Laatuseelvitys Quality Specifications  
STEEL FOR GENERAL STRUCTURAL PURPOSES

Lisävaatimukset Additional requirements

Fully killed, Fine grain practiced

Pos. Item	Sulatus, k erä nro Cast. test No	T-tila Cond	Vetokoe Tensile test		K2	°C	RP02 MPa	RT05 MPa	REL MPa	REH MPa	1	RM MPa 2	3	A % 50 80 200	REH / RM	RM * A5	RAZ %			1	2	3	Keskiarvo Average	Huom Nb	Taivutuskoe Bend test	K5	D = X t	Päästö Tempering °C
002	46729	021	NR	11						439	555		28															
007	47151	041	N	51						371	521		27															

K2: 11=TOP, TRANSV. 51=BOTTOM, TRANSV.

Pos. Item	Sulatus, k erä nro Cast. test No	Iskukoe Impact test	K3	°C	Impact test		1	2	3	Keskiarvo Average	W (mm)	FA %		1	2	3	Keskiarvo Average	1	2	3	Keskiarvo Average	K4	°C	Erikoiskokeet Special tests			Huom Nb	Päästö Tempering °C

FA = Sitkeämurtuman osuus Shear fracture appearance

LE = Polkittainen laajenema Lateral Expansion

002	46729	021	111	-020	210	214	209	211																					
007	47151	041	151	-020	160	170	170	167																					

K3: 111=CH+V/ISO-V(J), 10X10, TOP, LONGIT, KV600 151=CH+V/ISO-V(J), 10X10, BOTTOM, LONGIT, KV600

Raahe Steel Works

Testaus ja tarkastus Testing and Inspection

*Minna Valkama*

MINNA VALKAMA Valtuutettu tarkastaja Authorized inspection representative	Osoite Address: PL 93, P.O Box 93 FIN-92101 RAAHE, FINLAND	Puhelin Telephone: 020 5911 +358 20 5911	Y-tunnus Business ID: 2389445-7
Yhtiön nimi Company Name: SSAB Europe Oy Kotipaikka Registered Office: HAMÉENLINNA			

Täten todistamme, että toimitus on tilausvahvistuksen mukainen.  
We hereby certify that the material described above has been tested and complies with the terms of the order confirmation.



ANALYYSITODISTUS ANALYSIS CERTIFICATE  
ANALYSEBESCHEINIGUNG COMPOSITIO CHIMIQUE CERTIFICAT  
СЕРТИФИКАТ АНАЛИЗА

3/3  
A 15823 -001  
27.12.2019

Sulatus nro Cast No Schmelzen Nr. No de coulée № Плавки			Koe nro Test No Prüf Nr. Essai No № Пробы			Positio Item Pos. Poste Поз.			Cekv Ceq Câq Ceq Cekv			Analyysi % Chemical composition % Chemisch Zusammensetzung % Composition Chimique % Анализ сплава % (*-ppm)												Päivämäärä Date Datum Date Дата 31.12.2019			MLK		
												C	SI	MN	P	S	AL	NB	V	TI	CU	CR	NI	MO	N	B			
46729			002 .40			002 .40			.21 1.38 .015 .003 .032 .037			.155	.21	1.38	.015	.003	.032	.037	.011	.003	.014	0.05	0.04	.006	.004	.0003			
47151			007 .43			007 .43			.19 1.40 .013 .002 .033 .040			.171	.19	1.40	.013	.002	.033	.040	.081	.002	.008	0.04	0.03	.001	.005	.0002			

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

Raahe Steel Works

Testaus ja tarkastus  
Prüfung und Kontrolle

Испытание и контроль качества

*Minna Valkama*

MINNA VALKAMA

Valtuutettu tarkastaja  
Sachverständiger

Authorized inspection representative  
Inspektor autorisé

Yhtiön nimi Company Name:  
Kotipaikka Registered Office:

Osoite Address:  
FIN-92101 RAAHE, FINLAND

Puhelin Telephone:  
020 5911  
+358 20 5911

Y-tunnus Business ID: 2389445-7

Steel manufactured and supplied by Raahe Steel Works is free from radiation.  
Производимая на металлургическом комбинате «Raahe Steel Works» и поставляемая заказчику сталь не излучают радиации.

**Declaration of performance**  
(according to EU No 305/2011 and 574/2014)

DoP id. P011\_02

Hot rolled Plate product S355K2 / 1.0596  
according to  
EN 10025-2:2019  
for bolted, welded and riveted structures.

SSAB  
P.O Box 70  
101 20 Stockholm  
SWEDEN  
T: +46 8 45 45 700  
Email: info@ssab.com  
Website: ssab.com

TÜV NORD Systems Gmbh & Co. KG  
Grosse Bahnstrasse 31  
D-22525 Hamburg  
Germany  
T: +49 40 8557 2368

Assessment system and verification for constancy  
of performance

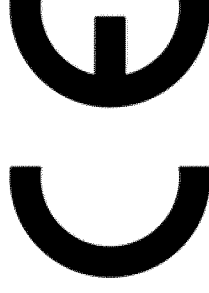
**System 2+**

The performance of the product identified in this document is  
in conformity with the set of declared performance. This declaration of performance  
is issued in accordance with Regulations (EU) No 305/2011 and 574/2014,  
under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Jarkko Matkala  
Vice President, hot rolled plate and strip products,  
SSAB Europe Oy, Raahе Steelworks  
Raahе 2015-06-09



**05**

0045-CPR-0573  
EN 10025-1:2004

Dop id: P011_02    EN 10025-2:2019		Performance		Harmonized technical specification
S355K2	Thickness	Tolerances on the nominal thickness (acc. EN 10029 Class A unless otherwise stated)		
Tolerances on dimensions and shapes.	Nominal thickness (mm)	Lower	Upper	EN 10025-1:2004
	3 ≤ t < 5	-0,3	+0,7	
	5 ≤ t < 8	-0,4	+0,8	
	8 ≤ t < 15	-0,5	+0,9	
	15 ≤ t < 25	-0,6	+1,0	
	25 ≤ t < 40	-0,7	+1,3	
	40 ≤ t < 80	-0,9	+1,7	
	80 ≤ t < 150	-1,1	+2,1	
	150 ≤ t < 250	-1,2	+2,4	
Width	Nominal thickness	Tolerances		
		Lower	Upper	
	t < 40	0	+20	
	40 ≤ t < 150	0	+25	
	150 ≤ t ≤ 400	0	+30	
Tolerances on width for plates with untrimmed edges (NK) shall be the subject of agreement between the manufacturer and purchaser at the time of enquiry and order				
Length	Nominal length	Tolerances		
	l	Lower	Upper	
	l < 4000	0	+20	
	4000 ≤ l < 6000	0	+30	
	6000 ≤ l < 8000	0	+40	
	8000 ≤ l < 10 000	0	+50	
	10 000 ≤ l < 15 000	0	+75	
15 000 ≤ l ≤ 20 000	0	+100		
Tolerances on plates with nominal length l > 20 000 mm shall be agreed at the time of enquiry and order.				
Flatness	Nominal thickness t	Measuring length		
	t	1000	2000	
	3 ≤ t < 5	9	14	
	5 ≤ t < 8	8	12	
	8 ≤ t < 15	7	11	
	15 ≤ t < 25	7	10	
	25 ≤ t < 40	6	9	
40 ≤ t < 250	5	8		

Yield strength	thickness mm	min (Mpa)	
	≤ 16	355	
	> 16 ≤ 40	345	
	> 40 ≤ 63	335	
	> 63 ≤ 80	325	
	> 80 ≤ 100	315	
	> 100 ≤ 150	295	
	> 150 ≤ 200	285	
	> 200 ≤ 250	275	
Tensile strength	thickness mm	min (Mpa)	max (Mpa)
	<3	510	680
	≥ 3 ≤ 100	470	630
	> 100 ≤ 150	450	600
	> 150 ≤ 250	450	600
Elongation	thickness mm	min %	
	≥ 3 ≤ 40	20	
	> 40 ≤ 63	19	
	> 63 ≤ 100	18	
	> 100 ≤ 150	18	
	> 150 ≤ 250	17	
Impact strength	thickness mm	temperature, °C	min. energy, J
	≤ 150	-20	40
	> 150 ≤ 250	-20	33
Weldability CEV	thickness mm	CEV max %	
	≤ 30	0,45	
	> 30 ≤ 40	0,47	
	> 40 ≤ 150	0,47	
	> 150 ≤ 250	0,49	
Durability (chemical composition)	element	Value	
		≤ 30	> 30
	C, max	0,20	0,22
	Si, max	0,55	
	Mn, max	1,60	
	P, max	0,025	
	S, max	0,025	
	N, max		
	Cu, max	0,55	
	Ni, max	0,42	
	Cr, max	0,29	
	Mo, max	0,11	