

| | | |
|---|---|--|
| Tilaja Purchaser BE GROUP OY AB PL 54 15101 LAHTI FINLAND Tilaus nro Order No. P093305 | Vastaanottaja Consignee BE GROUP OY AB METSÄKIVENTIE 4 62100 LAPUA FINLAND Asiakkaan merkki Shipping mark | Päivämäärä Date 23.11.2021 |
| Todistus Certificate 31 | Laivaus Shipping | Valmistajan merkki Mark of the Manufacturer |



| | | |
|---|--|---|
| Tuote Product HEAVY PLATES Laji Grade S420ML EN 10025-4:2019 Laatuselvitys Quality Specifications WELDABLE FINE GRAIN STRUCTURAL STEEL | Laatumerkintä Quality Marking S420ML | Tarkastajan leima Stamp of Inspector |
| Toimitustyyppi Delivery type REST DELIVERY | Sulatus nro levy nro X X X X X X X X X X Cast No. Plate No. X X X X X X X X X X | Vastaanottajan leima Stamp of Surveyor |
| Tuote Dimensions mm | Toleranssit Tolerances EN 10029:2010 CLASS A | Muut leimaukset Other Stamps |

Mxx

Tekniset vaatimukset jätetä viralliset määräykset Technical terms of Delivery and/or Official Regulations

| Positio Item | Mitat Dimensions mm | Merkki Mark | Kpl Pcs | Paino kg Weight kg | Sulatus levy nro Cast plate No | SP nro SP No | UT UT | MT MT | Turvamerkki Safetymark |
|---|---------------------|-----------------|---------|--------------------|--------------------------------|--------------|-------|-------|------------------------|
| HOT ROLLED STEEL PLATES | | | | | | | | | |
| FLATNESS MAX 6MM/M. .SURFACE CONDITION EN 10 163-2:2005 CLASS B3 | | | | | | | | | |
| 002 | 15.00 X 2000 X | 6000 2101466250 | 2 | 2880 | 83447 021 | 021 | | | |
| | | | *** | 2 | 2880 | | | | |

Raahe Steel Works

Testaus ja tarkastus Testing and Inspection

Minna Valkama

MINNA VALKAMA

Valtuutettu tarkastaja Authorized inspection representative
Yhtiön nimi Company Name: SSAB Europe Oy
Kotipaikka Registered Office: HAMEENLINNA

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.

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

Tilaaja Purchaser
BE GROUP OY AB
PL 54
15101 LAHTI FINLAND
Tilaus nro Order No.
PC93305

Vastaanottaja Consignee
BE GROUP OY AB
METSÄKIVENTIE 4
62100 LAPUA FINLAND
Asiakkaan merkki Shipping mark

Tilausvahvistus Order Confirmation
26896

Laji Grade
S420ML

Lisävaatimukset Additional requirements

Jaikuvavalettua happiterästä
Oxygen steel, continuous casting
Fully killed, Fine grain practiced

Laatuseilytyks Quality Specifications

WELDABLE FINE GRAIN STRUCTURAL STEEL

| Pos. Item | Sulatus k. erä nro Cast. test No | T-tila Cond | Vetokoe Tensile test | RP02 MPA | | | RE / RM | | | RAZ % | | | Keskiarvo Average | Huom Nb | Päästö Tempering °C | |
|---------------------|----------------------------------|-------------|----------------------|----------|-----|----|---------|---|---|-------|----|-----|-------------------|---------|---------------------|----|
| | | | | K2 | °C | °C | 1 | 2 | 3 | 1 | 2 | 3 | | | | K5 |
| 002 | 83447 | 021 | TM | 11 | 497 | | 1 | 2 | 3 | 50 | 80 | 200 | | | | |
| K2: 11=TOP, TRANSV. | | | | | | | | | | | | | | | | |

TM=THERMOMECH. TREATED

| Pos. Item | Sulatus k. erä nro Cast. test No | Isku koe Impact test | FA % | | | LE (mm) | | | Erikoiskokeet Special tests | | | Huom Nb | Päästö Tempering °C | | |
|---|----------------------------------|----------------------|------|------|-----|---------|-----|-----|-----------------------------|---|---|---------|---------------------|----|----|
| | | | K3 | °C | °C | 1 | 2 | 3 | 1 | 2 | 3 | | | K4 | °C |
| 002 | 83447 | 021 | 111 | -050 | 305 | 301 | 284 | 297 | | | | | | | |
| K3: 111=CH-VISO-V(J), 10X10, TOP, LONGIT, KV600 | | | | | | | | | | | | | | | |

FA = Sitkeämurtuman osuus Shear fracture appearance

LE = Poikittainen laajenema Lateral Expansion

Raahe Steel Works

Testaus ja tarkastus Testing and Inspection



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Kotipaikka Registered Office: HAMEENLINNA

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+358 20 5911

Y-tunnus Business ID: 2389445-7

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 26896 -004
 19.11.2021

Päivämäärä Date Datum Date Дата
 23.11.2021 AMT

| Sulatus nro Cast No Schmelzen Nr. № Плавки | Koe nro Test No Prüf Nr. Essai No № Проб | Positio Item Pos. Poste № | Cekki Ceq Ceq Ceq Cekki | Analysi % Chemical composition % Chemisch Zusammensetzung % Composition Chimique % Анализ сплава % | C | SI | MN | P | S | AL | NB | V | TI | CU | CR | NI | MO | N | B |
|---|--|---------------------------------------|-------------------------------------|--|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 83447 | | 002 | .21 | | .056 | .30 | 0.85 | .007 | .002 | .041 | .042 | .006 | .001 | .012 | 0.04 | 0.03 | .003 | .005 | .0002 |

(* -ppm)

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

Raahе Steel Works

Testaus ja tarkastus
 Prüfung und Kontrolle

Испытание и контроль качества

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

Minna Valkama

MINNA VALKAMA

Valtuutettu tarkastaja
 Sachverständiger

Authorized inspection representative
 Inspector autorisé

Уполномоченный инспектор

Yhtiön nimi Company Name: SSAB Europe Oy
 Kotipaikka Registered Office: HAMENLINNA

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

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

DoP id. P025_02

Hot rolled Plate product S420ML / 1.8836
according to
EN 10025-4:2019
for bolted, welded and riveted structures.

SSAB
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101 20 Stockholm
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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

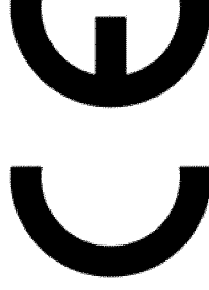
System 2+

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: P025_02 | EN 10025-4:2019 | Harmonized technical specification |
| S420ML Tolerances on dimensions and shapes. | Thickness | Performance Tolerances on the nominal thickness (acc. EN 10029 Class A unless otherwise stated) |
| | Nominal thickness (mm) | Lower Upper |
| Thickness | $3 \leq t < 5$ | -0,3 +0,7 |
| | $5 \leq t < 8$ | -0,4 +0,8 |
| | $8 \leq t < 15$ | -0,5 +0,9 |
| | $15 \leq t < 25$ | -0,6 +1,0 |
| | $25 \leq t < 40$ | -0,7 +1,3 |
| | $40 \leq t < 80$ | -0,9 +1,7 |
| | $80 \leq t < 150$ | -1,1 +2,1 |
| | $150 \leq t < 250$ | -1,2 +2,4 |
| Width | Nominal thickness | Tolerances |
| | $t < 40$ | Lower Upper |
| | $40 \leq t < 150$ | 0 +20 |
| Length | $150 \leq t < 400$ | 0 +25 |
| | 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 | |
| | Nominal length | Tolerances |
| | $l < 4000$ | Lower Upper |
| | $4000 \leq l < 6000$ | 0 +20 |
| Flatness | $6000 \leq l < 8000$ | 0 +30 |
| | $8000 \leq l < 10\ 000$ | 0 +40 |
| | $10\ 000 \leq l < 15\ 000$ | 0 +50 |
| | $15\ 000 \leq l \leq 20\ 000$ | 0 +75 |
| | Tolerances on plates with nominal length $l > 20\ 000$ mm shall be agreed at the time of enquiry and order. | |
| Nominal thickness t | Measuring length | |
| t | 1000 | |
| $3 \leq t < 5$ | 9 | |
| $5 \leq t < 8$ | 8 | |
| $8 \leq t < 15$ | 7 | |
| $15 \leq t < 25$ | 7 | |
| $25 \leq t < 40$ | 6 | |
| $40 \leq t < 250$ | 5 | |

| | | | |
|-----------------------------------|------------------|-----------------|----------------|
| Yield strength | thickness mm | min (Mpa) | max (Mpa) |
| | ≤ 16 | 420 | |
| | $> 16 \leq 40$ | 400 | |
| | $> 40 \leq 63$ | 390 | |
| | $> 63 \leq 80$ | 380 | |
| Tensile strength | thickness mm | min (Mpa) | max (Mpa) |
| | ≤ 40 | 520 | 680 |
| | $> 40 \leq 63$ | 500 | 660 |
| | $> 63 \leq 80$ | 480 | 640 |
| | $> 80 \leq 100$ | 470 | 630 |
| Elongation | thickness mm | min % | max % |
| | $> 100 \leq 120$ | 460 | 620 |
| Impact strength | thickness mm | temperature, °C | min. energy, J |
| | | -50 | 27 |
| Weldability CEV | thickness mm | CEV max % | |
| | ≤ 16 | 0.43 | |
| | $> 16 \leq 40$ | 0.45 | |
| | $> 40 \leq 63$ | 0.46 | |
| | $> 63 \leq 120$ | 0.47 | |
| Durability (chemical composition) | thickness mm | min % | max % |
| | $> 120 \leq 150$ | 19 | |
| | element | Value | |
| | C, max | 0.16 | |
| | Si, max | 0.50 | |
| Mn, max | 1.70 | | |
| P, max | 0.025 | | |
| S, max | 0.020 | | |
| Nb, max | 0.05 | | |
| V, max | 0.12 | | |
| Al, min | 0.02 | | |
| Ti, max | 0.05 | | |
| Cr, max | 0.30 | | |
| Ni, max | 0.80 | | |
| Mo, max | 0.20 | | |
| Cu, max | 0.55 | | |
| N, max | 0.025 | | |

EN 10 204-3.1 (2004)

| | | |
|---|---|--|
| Tilaja Purchaser BE GROUP OY AB PL 54 15101 LAHTI FINLAND Tilaus nro Order No. P093305 | Vastaanottaja Consignee BE GROUP OY AB METSÄKIVENTIE 4 62100 LAPUA FINLAND Asiakkaan merkki Shipping mark | Päivämäärä Date 23.11.2021 |
| Tilauksen vahvistus Order Confirmation 26896 | Laatumerkintä Quality Marking S420ML | Valmistajan merkki Mark of the Manufacturer |
| Toimitus Certificate 31 | Laivaus Shipping |  |

| | | |
|---|--|---|
| Toimitustyyppi Delivery type REST DELIVERY | Sulatus nro levy nro Cast No. Plate No. X X X X X X X X X X X X X X X X | Tarkastajan leima Stamp of Inspector Mxx |
| Tuote Product HEAVY PLATES | Toleranssit Tolerances EN 10029:2010 CLASS A | Vastaanottajan leima Stamp of Surveyor |
| Laji Grade S420ML EN 10025-4:2019 | | Muut leimaukset Other Stamps |

Laatuselvitys Quality Specifications
WELDABLE FINE GRAIN STRUCTURAL STEEL

| | | | | | | | | | |
|--|------------------------|-------------|---------|--------------------|--------------------------------|--------------|-------|-------|------------------------|
| Positio Item | Mitat mm Dimensions mm | Merkki Mark | Kpl Pcs | Paino kg Weight kg | Sulatus levy nro Cast plate No | SP nro SP No | UT UT | MT MT | Turvamerkki Safetymark |
| <p>HOT ROLLED STEEL PLATES</p> <p>FLATNESS MAX 6MM/M. .SURFACE CONDITION EN 10 163-2:2005 CLASS B3</p> <p>002 15.00 X 2000 X 6000 2101466250</p> | | | | | | | | | |
| <p>*** 2 2880 83447 021 021</p> | | | | | | | | | |

Tekniset vaatimukset jätetä viralliset määräykset Technical terms of Delivery and/or Official Regulations

Raahe Steel Works

Testaus ja tarkastus Testing and Inspection



MINNA VALKAMA

Valtuutettu tarkastaja Authorized inspection representative
Yhtiön nimi Company Name: SSAB Europe Oy
Kotipaikka Registered Office: HAMEENLINNA

Osoite Address: PL 93, P.O. Box 93
FIN-92101 RAAHE, FINLAND

Y-tunnus Business ID: 2389445-7

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.

Tilaaja Purchaser
BE GROUP OY AB
PL 54
15101 LAHTI FINLAND
Tilaus nro Order No.
PC93305

Vastaanottaja Consignee
BE GROUP OY AB
METSÄKIVENTIE 4
62100 LAPUA FINLAND
Asiakkaan merkki Shipping mark

Päivämäärä Date
23.11.2021

Valmistajan merkki
Mark of the Manufacturer


Tilausvahvistus Order Confirmation
26896

Lisävaatimukset Additional requirements

Jalkuvaalettua happiterästä
Oxygen steel, continuous casting
Fully killed, Fine grain practiced

Laatuselitys Quality Specifications
WELDABLE FINE GRAIN STRUCTURAL STEEL

| Pos. Item | Sulatus k. erä nro Cast. test No | T-tila Cond | Vetokoe Tensile test | RP02 MPA | | | RE / RM | | | RAZ % | | | Keskiarvo Average | Huom Nb | Päästö Tempering °C |
|--|----------------------------------|--------------|----------------------|----------|----|----|---------|---|---|-------|---|---|-------------------|---------|---------------------|
| | | | | K2 | °C | °C | 1 | 2 | 3 | 1 | 2 | 3 | | | |
| 002 | 83447 021 | TM 11 | 497 | | | | | | | | | | | | |
| K2: 11=TOP, TRANSV. 604 24 | | | | | | | | | | | | | | | |

TM=THERMOMECH. TREATED

| Pos. Item | Sulatus k. erä nro Cast. test No | Isku koe Impact test | K3 | °C | W (mm) | | | Keskiarvo Average | | | Erikoiskokeet Special tests | | | Huom Nb | Päästö Tempering °C |
|--|---|----------------------|----|----|--------|---|---|-------------------|---|---|-----------------------------|----|---|---------|---------------------|
| | | | | | 1 | 2 | 3 | 1 | 2 | 3 | K4 | °C | 1 | | |
| 002 | 83447 021 111 -050 305 301 284 297 | | | | | | | | | | | | | | |
| K3: 111=CH-VISO-V(J),10X10, TOP, LONGIT, KV600 FA = Sitkeämurtuman osuus Shear fracture appearance LE = Poikittainen laajenema Lateral Expansion | | | | | | | | | | | | | | | |

Raahe Steel Works

Testaus ja tarkastus Testing and Inspection



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Valtuutettu tarkastaja Authorized inspection representative
Yhtiön nimi Company Name: SSAB Europe Oy
Kotipaikka Registered Office: HAMEENLINNA

Puhelin Telephone: 020 5911
+358 20 5911

Y-tunnus Business ID: 2389445-7

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ANALYYSITODISTUS ANALYSIS CERTIFICATE
 ANALYSEBESCHEINIGUNG COMPOSITIO CHIMIQUE CERTIFICAT
 СЕРТИФИКАТ АНАЛИЗА

3/3

A 26896 -004
 19.11.2021

Päivämäärä Date Datum Date Дата
 23.11.2021 AMT

| Sulatus nro Cast No Schmelzen Nr. № Плавки | Koe nro Test No Prüf Nr. Essai No № Проб | Positio Item Pos. Poste Поз. | Cekki Ceq Ceq Ceq Cekki | Analysi % Chemical composition % Chemisch Zusammensetzung % Composition Chimique % Анализ сплава % | C | SI | MN | P | S | AL | NB | V | TI | CU | CR | NI | MO | N | B |
|---|--|--|-------------------------------------|--|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 83447 | | 002 | .21 | .056 | .30 | .85 | .007 | .002 | .041 | .042 | .042 | .006 | .001 | .012 | 0.04 | 0.03 | .003 | .005 | .0002 |

(* -ppm)

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

Raahе Steel Works

Testaus ja tarkastus
 Prüfung und Kontrolle

Испытание и контроль качества

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

Minna

MINNA VALKAMA

Valtuutettu tarkastaja
 Sachverständiger

Authorized inspection representative
 Inspector autorisé

Уполномоченный инспектор

Yhtiön nimi Company Name: SSAB Europe Oy
 Kotipaikka Registered Office: HAMENLINNA

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

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

DoP id. P025_02

Hot rolled Plate product S420ML / 1.8836
according to
EN 10025-4:2019
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

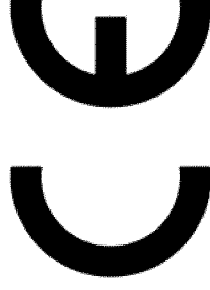
System 2+

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: P025_02 | EN 10025-4:2019 | Harmonized technical specification |
| S420ML Tolerances on dimensions and shapes. | Thickness | Performance Tolerances on the nominal thickness (acc. EN 10029 Class A unless otherwise stated) |
| | Nominal thickness (mm) | Lower Upper |
| Thickness | $3 \leq t < 5$ | -0,3 +0,7 |
| | $5 \leq t < 8$ | -0,4 +0,8 |
| | $8 \leq t < 15$ | -0,5 +0,9 |
| | $15 \leq t < 25$ | -0,6 +1,0 |
| | $25 \leq t < 40$ | -0,7 +1,3 |
| | $40 \leq t < 80$ | -0,9 +1,7 |
| | $80 \leq t < 150$ | -1,1 +2,1 |
| | $150 \leq t < 250$ | -1,2 +2,4 |
| Width | Nominal thickness | Tolerances |
| | $t < 40$ | Lower Upper |
| | $40 \leq t < 150$ | 0 +20 |
| Length | $150 \leq t < 400$ | 0 +25 |
| | 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 | |
| | Nominal length | Tolerances |
| | l | Lower Upper |
| Flatness | $l < 4000$ | 0 +20 |
| | $4000 \leq l < 6000$ | 0 +30 |
| | $6000 \leq l < 8000$ | 0 +40 |
| | $8000 \leq l < 10\ 000$ | 0 +50 |
| | $10\ 000 \leq l < 15\ 000$ | 0 +75 |
| | $15\ 000 \leq l \leq 20\ 000$ | 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 |
| | $3 \leq t < 5$ | 9 14 |
| | $5 \leq t < 8$ | 8 12 |
| | $8 \leq t < 15$ | 7 11 |
| | $15 \leq t < 25$ | 7 10 |
| $25 \leq t < 40$ | 6 9 | |
| $40 \leq t < 250$ | 5 8 | |

| | | | |
|-----------------------------------|------------------|-----------------|----------------|
| Yield strength | thickness mm | min (Mpa) | max (Mpa) |
| | ≤ 16 | 420 | |
| | $> 16 \leq 40$ | 400 | |
| | $> 40 \leq 63$ | 390 | |
| | $> 63 \leq 80$ | 380 | |
| Tensile strength | thickness mm | min (Mpa) | max (Mpa) |
| | ≤ 40 | 520 | 680 |
| | $> 40 \leq 63$ | 500 | 660 |
| | $> 63 \leq 80$ | 480 | 640 |
| | $> 80 \leq 100$ | 470 | 630 |
| Elongation | thickness mm | min % | max % |
| | $> 100 \leq 120$ | 460 | 620 |
| Impact strength | thickness mm | temperature, °C | min. energy, J |
| | $> 100 \leq 120$ | -50 | 27 |
| Weldability CEV | thickness mm | CEV max % | |
| | ≤ 16 | 0.43 | |
| | $> 16 \leq 40$ | 0.45 | |
| | $> 40 \leq 63$ | 0.46 | |
| Durability (chemical composition) | thickness mm | min % | max % |
| | $> 63 \leq 120$ | 0.47 | 0.47 |
| Durability (chemical composition) | element | Value | |
| | C, max | 0.16 | |
| | Si, max | 0.50 | |
| | Mn, max | 1.70 | |
| | P, max | 0.025 | |
| | S, max | 0.020 | |
| | Nb, max | 0.05 | |
| | V, max | 0.12 | |
| | Al, min | 0.02 | |
| | Ti, max | 0.05 | |
| | Cr, max | 0.30 | |
| | Ni, max | 0.80 | |
| | Mo, max | 0.20 | |
| | Cu, max | 0.55 | |
| N, max | 0.025 | | |