

Prevezmno spričevalo o preizkušanju/Abnahmeprüfzeugnis/Inspection Certificate **EN 10204/3.1**

Št./Nr./No. **A22-15816**

SITHERM 2344

Znak proizvajalca/Zeichen des Herstellerwerks/Mark of the Manufacturer



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Naročnik/Besteller/Purchaser

JINDAL ALUMINIUM LIMITED
16th K.M.TUMKUR ROAD,JINDAL NAGAR

Datum/Datum/Date

30.11.2022

Odpremnica/Lieferschein/Delivery Note

03-22-70670

560073 BANGALORE
INDIA

Št.naročila/Bestell Nr./Order No. IMP/22-23/POI20220704	Poz./Charge/Serialnr./Pos. :	Int.nar./Unsere Auftrag Nr./Works Order No. N22-02458/001
Predmet/Gegenstand/Subject Forged bar EFS Turned		Kvaliteta/Stahlmarke/Grade of steel H13 - 1.2344 EFS
Term. obd./Waermebehandlung/Heat treatment Spheroidization annealed		Standard/Anforderungen/Requirements EN ISO 4957, ASTM A681-08, NADCA 207-2011
Načrt/Zeichnung/Drawing 255 x 2500-5000 mm ROUND		Masa/Masse (kg) 2 2956
Št. šarže/Schmelze Nr./Heat No.: 119401		

Kemijska sestava/Chemische Zusammensetzung/Chemical Composition (%)

C	Si	Mn	P	S	Cr	Mo	V
0,38	0,84	0,35	0,016	0,002	5,04	1,25	0,870

Trdota materiala/Haerte von Material/Hardness of material: **(175-192) HB**

Mehanske lastnosti/Ergebnis der Prüfungen/Test Results

Proba Probe Specimen	Smer Direction Richtung	Dimenzija Dimension Size mm	J		
			ISO-V (V45°) 23°C		
2022-K2575/O	T		17	17	16

Grain size ASTM E112: **7;**

Nonmetallic inclusion ASTM E45-met A: **At=0;Bt=0;Ct=0;Dt=1;Ad=0;Bd=0;Cd=0;Dd=0,5;**

Mikrostruktura NADCA 207-2003: **AS5**

Microstructure Nadca 229-2011: **Acceptable**

Opomba/Bemerkung/Note

The material was controled by Ultrasound method acc.to EN 10228-3:kl.2 and is suitable.

Radioactivity Inspection: Measured value is below Co-60<0.10 Bq/g (According to specification IAEA RS-G-1.7, Table 2)

The material is in accordance with the required properties

Kontrola
Pruefstelle
Inspection



Način pretaljevanja
Erschmelzungsart
Steelmaking process

E+VAD

Način litja
Giessart
Method of casting

Ingots



GREBENC DARJA
Quality Control

Prevezmno spričevalo o preizkušanju/Abnahmepruefzeugnis/Inspection Certificate **EN 10204/3.1**

Št./Nr./No. **A22-15820**

SITHERM 2344

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Znak proizvajalca/Zeichen des Herstellerwerks/Mark of the Manufacturer



Naročnik/Besteller/Purchaser

JINDAL ALUMINIUM LIMITED
16th K.M.TUMKUR ROAD,JINDAL NAGAR

Datum/Datum/Date

30.11.2022

Odpremnica/Lieferschein/Delivery Note

03-22-70670

560073 BANGALORE
INDIA

Št.naročila/Bestell Nr./Order No.

IMP/22-23/POI20220704

Poz./Charge/Serialnr./Pos.

Int.nar./Unsere Auftrag Nr./Works Order No.

N22-02458/001

Predmet/Gegenstand/Subject

Forged bar EFS Turned

Kvaliteta/Stahlmarke/Grade of steel

H13 - 1.2344 EFS

Term. obd./Waermebehandlung/Heat treatment

Spheroidization annealed

Standard/Anforderungen/Requirements

EN ISO 4957, ASTM A681-08, NADCA 207-2011

Načrt/Zeichnung/Drawing

255 x 2500-5000 mm ROUND

Masa/Masse (kg)

2

2430

Št. šarže/Schmelze Nr./Heat No.: **118805**

Kemijska sestava/Chemische Zusammensetzung/Chemical Composition (%)

C	Si	Mn	P	S	Cr	Mo	V
0,39	0,82	0,35	0,016	0,002	5,17	1,22	0,870

Trdota materiala/Haerte von Material/Hardness of material: **(186-208) HB**

Mehanske lastnosti/Ergebnis der Prüfungen/Test Results

Proba Probe Specimen	Dimenzija Dimension Size mm	J		
		ISO-V (V45°) 23°C		
2022-K2097/O		13	15	15

Grain size ASTM E112: **7**

Nonmetallic inclusion ASTM E45-met A: **At=0;Bt=0;Ct=0;Dt=1;Ad=0;Bd=0;Cd=0;Dd=0,5;**

Mikrostruktura NADCA 207-2003: **as4**

Microstructure Nadca 229-2011: **Acceptable**

Opomba/Bemerkung/Note

The material was controled by Ultrasound method acc.to EN 10228-3:kl.2 and is suitable.

Radioactivity Inspection: Measured value is below Co-60<0.10 Bq/g (According to specification IAEA RS-G-1.7, Table 2)

The material is in accordance with the required properties

Kontrola
Pruefstelle
Inspection



Način pretaljevanja
Erschmelzungsart
Steelmaking process

E+VAD

Način litja
Giessart
Method of casting

Ingots



GREBENC DARJA
Quality Control

Prevezemno spričevalo o preizkušanju/Abnahmepruefzeugnis/Inspection Certificate **EN 10204/3.1**

Št./Nr./No. **A22-15823**

SITHERM 2344

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Znak proizvajalca/Zelchen des Herstellerwerks/Mark of the Manufacturer



Naročnik/Besteller/Purchaser

JINDAL ALUMINIUM LIMITED
16th K.M.TUMKUR ROAD,JINDAL NAGAR

Datum/Datum/Date

30.11.2022

Odpremnica/Lieferschein/Delivery Note

03-22-70670

560073 BANGALORE
INDIA

Št.naročila/Bestell Nr./Order No.

IMP/22-23/POI20220704

Poz./Charge/Serialnr./Pos.

Int.nar./Unsere Auftrag Nr./Works Order No.

N22-02458/002

Predmet/Gegenstand/Subject

Forged bar EFS Turned

Kvaliteta/Stahlmarke/Grade of steel

H13 - 1.2344 EFS

Term. obd./Waermebehandlung/Heat treatment

Spheroidization annealed

Standard/Anforderungen/Requirements

EN ISO 4957, ASTM A681-08, NADCA 207-2011

Načrt/Zeichnung/Drawing

335 x 2500-5000 mm ROUND

Masa/Masse (kg)

2

5146

Št. šarže/Schmelze Nr./Heat No.: **119401**

Kemijska sestava/Chemische Zusammensetzung/Chemical Composition (%)

C	Si	Mn	P	S	Cr	Mo	V
0,38	0,84	0,35	0,016	0,002	5,04	1,25	0,870

Trdota materiala/Haerte von Material/Hardness of material: **(175-192) HB**

Mehanske lastnosti/Ergebnis der Prüfungen/Test Results

Proba Probe Specimen	Smer Direction Richtung	Dimenzija Dimension Size mm	J ISO-V (V45°) 23°C		
2022-K2575/O	T		17	17	16

Grain size ASTM E112: **7;**

Nonmetallic inclusion ASTM E45-met A: **At=0;Bt=0;Ct=0;Dt=1;Ad=0;Bd=0;Cd=0;Dd=0,5;**

Mikrostruktura NADCA 207-2003: **AS5**

Microstructure Nadca 229-2011: **Acceptable**

Opomba/Bemerkung/Note

The material was controled by Ultrasound method acc.to EN 10228-3:kl.2 and is suitable.

Radioactivity Inspection: Measured value is below Co-60<0.10 Bq/g (According to specification IAEA RS-G-1.7, Table 2)

The material is in accordance with the required properties

Kontrola
Pruefstelle
Inspection



Način pretaljevanja
Erschmelzungsart
Steelmaking process

E+VAD

Način litja
Giessart
Method of casting

Ingots



GREBENC DARJA
Quality Control

Prevzemno spričevalo o preizkušanju/Abnahmeprüfzeugnis/Inspection Certificate **EN 10204/3.1**

Št./Nr./No. **A22-15824**

SITHERM 2344

Znak proizvajalca/Zeichen des Herstellerwerks/Mark of the Manufacturer



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Naročnik/Besteller/Purchaser

JINDAL ALUMINIUM LIMITED
16th K.M.TUMKUR ROAD,JINDAL NAGAR

Datum/Datum/Date

30.11.2022

Odpremnica/Lieferschein/Delivery Note

03-22-70670

560073 BANGALORE
INDIA

Št.naročila/Bestell Nr./Order No.

IMP/22-23/POI20220704

Poz./Charge/Serialnr./Pos.

Int.nar./Unsere Auftrag Nr./Works Order No.

N22-02458/005

Predmet/Gegenstand/Subject

Forged bar EFS Turned

Kvaliteta/Stahlmarke/Grade of steel

H13 - 1.2344 EFS

Term. obd./Waermebehandlung/Heat treatment

Spheroidization annealed

Standard/Anforderungen/Requirements

EN ISO 4957, ASTM A681-08, NADCA 207-2011

Načrt/Zeichnung/Drawing

535 x 2500-5000 mm ROUND

1

Masa/Masse (kg)

5160

Št. šarže/Schmelze Nr./Heat No.: **119401**

Kemijska sestava/Chemische Zusammensetzung/Chemical Composition (%)

C	Si	Mn	P	S	Cr	Mo	V
0,38	0,84	0,35	0,016	0,002	5,04	1,25	0,870

Trdota materiala/Haerte von Material/Hardness of material: **(176-187) HB**

Mehanske lastnosti/Ergebnis der Prüfungen/Test Results

Proba Probe Specimen	Smer Direction Richtung	Dimenzija Dimension Size mm	J		
			ISO-V (V45°) 23°C		
2022-K2578/O	T		14	14	13

Grain size ASTM E112: **7;**

Nonmetallic inclusion ASTM E45-met A: **At=0;Bt=0;Ct=0;Dt=1;Ad=0;Bd=0;Cd=0;Dd=0,5;**

Nonmetallic inclusion ASTM E45-met A: **At=0;Bt=0;Ct=0;Dt=1;Ad=0;Bd=0;Cd=0;Dd=0,5;**

Microstructure Nadca 229-2011: **Acceptable**

Opomba/Bemerkung/Note

The material was controled by Ultrasound method acc.to EN 10228-3:kl.2 and is suitable.

Radioactivity Inspection: Measured value is below Co-60<0.10 Bq/g (According to specification IAEA RS-G-1.7, Table 2)

The material is in accordance with the required properties

Kontrola
Pruefstelle
Inspection



Način pretaljevanja
Erschmelzungsart
Steelmaking process

E+VAD

Način litja
Giessart
Method of casting

Ingots



GREBENC DARJA
Quality Control