

ENTREGA DE DOCUMENTACIÓN / DOCUMENTATION DELIVERY

Tipo de Requisito Documental: <i>Type of Document Requirement:</i>	MC
Proveedor: <i>Supplier:</i>	MICROLAN AEROSPACE, S.L.
Nº Pedido: <i>Order Number:</i>	C-PE23/02555
Fecha: <i>Date:</i>	05/07/2024
Nº Pieza: <i>Part Number:</i>	T000982574-11101P01
Cantidad: <i>Quantity:</i>	3



Business Unit / QCM

BA Quarto Plate, Quarto Plate Europe

Date Datum Date
20-Sep-2022

Load, Ladung, Charge No

Acknowledged ID, Bestätigung, Commande ID
300640107

Your ref, Ihre Ref., Votre ref 70.		Requirements, Anforderungen, Exigences AD 2000-Mbl. W2/AD 2000-Mbl. W10 /EN 10028-7, PED 2014/68/EU/VdTÜV-Wbl.418:2021-04-13 EN 10088-2:14 EN 10088-4:2009 ASME SA-240M Code Sect. II. Part A:2021 NORSOK Standard MDS D45 Rev.6 NACE MR0103 / ISO 17945:2015 ASTM A240M / NACE MR0175/ ISO 15156-3:20/2015 PREN=CR+3.3Mo+16N: Min=35 Additional requirement, see "Other information"	
Buyer, Besteller, Acheteur TREDINOX S.r.l. Via Casa Celeste, 16 36014, SANTORSO, Vicenza ITALIEN			
Consignee, Empfänger, Lieu de livraison Tredinox srl			
Mark of Manufacturer Zeichen des Lieferwerkes Signe de producteur 	Process Erschmelzungsart Mode de fusion E+AOD	Inspector's stamp Zeichen des Sachverständigen Poinçon de l'expert 	Grade, Werkstoff, Nuance Outokumpu 2205 1.4462 UNS S31803 UNS S32205

Product, Erzeugnisform, Produit
Stainless steel hot rolled, Plate, 1D/No.1, Cut edge

Line Reihe Ligne	Item Position Poste	Heat-Lot No Schmelze-Lot Nr Coulée n° - Lot No	Size Abmessungen Dimensions	Pieces Stückzahl Nombre	Quantity/unit, Menge/Einheit, Quantité/Unité
1	3	522900-436632:0	15,0 X 2550,0 X 8050,0 mm	1	

	Plate No, Blech Nr, Tôle No
1	3187 1501

Chemical composition – Chemische Zusammensetzung – Composition chimique %
Heat – Schmelze – coulée No

	C	Si	Mn	P	S	Cr	Ni	Mo	N					
Min						22.00	4.50	3.00	0.14					
Max	0.030	1.00	2.00	0.030	0.015	23.00	6.50	3.50	0.20					
522900	0.021	0.44	1.35	0.027	0.001	22.25	5.67	3.12	0.18					

Distribution Certificate via e-Services.	Direct. T = Transverse L = Longitudinal	Top/Bot F = Front B = Back	Form P = Flat C = Round	Location 1 = Center 2 = Close to Surface 3 = Standard 4 = At 1/4 of thickness
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Test results - Prüfergebnisse - Résultats des essais (1N/mm ² = 1MPa)										
Mechanical properties										
Tensile testing/Hardness Rockwell C										
Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Rp 0,2 MPa	Rm MPa	A5 %	A50 %	HRC HRC
Min						480	680	25	25	
Max						840	840			28
1501	T	F	2	P	20	533	777	42	45	19


Systems GmbH & Co. KG
Benannte Stelle / Notified Body 0045
22525 Hamburg, Germany
EN: 10204-3.2
Sachverständiger / Abnahmebeauftragter
Expert / Inspection Representative
TUV-Az, file 1326W-Degerfors

Lindqvist

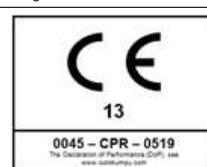
The results comply with the Requirements of the order - Die gestellten Anforderungen sind erfüllt - Les résultats sont conformes aux exigences de la commande

Outokumpu Stainless AB
BA Quarto Plate, Quarto Plate Europe
SE-, 693 81 DEGERFORS
SWEDEN
Regoffice: SWEDEN

V.A.T no: SE556001874801
Regno: 556001-8748

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Quality Inspector

Liselotte Andersen





Elevated temperature tensile test EN ISO 6892-2 (280 °C)

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Rp 0,2 MPa
Min						285
1501	T	F	2	P	280	374

Charpy impact test (V-notch) ASTM A370 (-46 °C)

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Value1 J	Value2 J	Value3 J	Average J	Lat ex1 mm	Lat ex2 mm	Lat ex3 mm
Min						35	35	35	45	0.38	0.38	0.38
1501	T	F	1	P	-46	107	139	109	118	1.18	1.41	1.12

Charpy impact test (V-notch) EN ISO 148-1 (-40 °C)

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Value1 J	Value2 J	Value3 J	Average J
Min									40
1501	T	F	2	P	-40	89	119	119	109

Corrosion

ASTM A262 Practice E

Plate-no	Result
1501F	OK

EN ISO 3651-2 Method C

Plate-no	Result
1501F	OK

ASTM G48 Method A 24h

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Cor.rate g/m2*24h
Max						0.99
1501	T	F	3	P	25	0.00

Metallographic testing

Ferrite examination ASTM E1245

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Ferrite %
Min						35
Max						60
1501	T	F	3	P	20	49

Ferrite examination Fischer Feritscope

Plate-no	Direct.	Top/Bot	Location	Form	Temp. °C	Ferrite %
Min						35
Max						65
1501	T	F	2	P	20	45

Microstructure examination EN ISO 17781

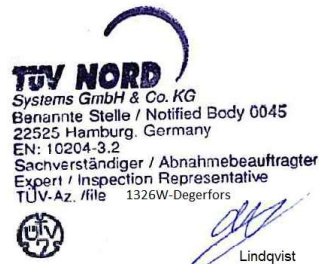
Plate-no	Result
1501F	OK

Microstructure examination :

Plate-no	Result
1501F	OK

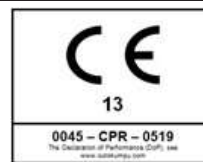
Other Information

Country of melt: Sweden
Manufactured in Sweden.



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Solution annealed at 1100°C and Quenched in water.
Dimensional control, visual inspection and grade check (PMI): Approved
Approved acc. to AD2000-Merkblatt W0 and certified acc. to
Pressure Equipment Directive (2014/68/EU) by
TUEV NORD, notified body, reg.no. 0045.
Holding time approximately 1 minute/mm plate thickness.
Construction Products Regulation (305/2011/EU)
The Declaration of Performance (DoP), see www.outokumpu.com.
Material conforms to NACE MR0175/ISO 15156 in supplied condition.
Material conforms to NACE MR0103/ISO 17945 in supplied condition.
Norsok M-650 QTR. No.: QTR_S32205/S31803 Rev.5
PREN=CR+3.3Mo+16N: 35 (Min:35)
Photograph of the microstructure in certificates 400X.

Additional testing:
ASTM A262 Practice E

Tolerance	Standard	Class
Flatness tolerance	EN 18286/A480/M/EN 10029	ISO 18286 S/A480/M/EN 10029 S
Length	EN 18286/A480/M/EN 10029	ISO 18286 A/A480/M/EN 10029
Thickness	EN 18286/A480/M/EN 10029	EN 10029 class C.
Width	EN 18286/A480/M/EN 10029	ISO 18286 A/A480/M/EN 10029

TÜV NORD
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Benannte Stelle / Notified Body 0045
22525 Hamburg, Germany
EN: 10204-3.2
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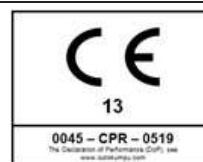
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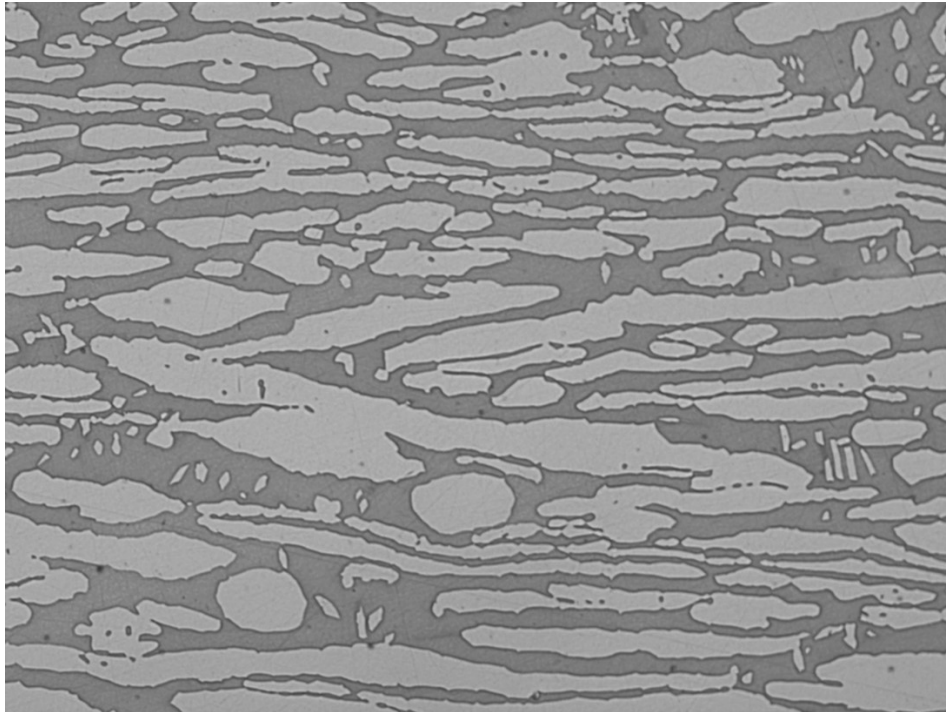
Liselotte Andersen



Microstructure
Provningskort 010

Date: 2022-09-19	Grade: 2205	MaterialId: 3187-15-01_1	Orderno:	LotNo: 436632	Heat: 522900
Grainsize:	Inter.faces:			Ferrite%:	

Etch: NAOH



Magnification: 400X

☒ Approved

☐ Not Approved

Signature: *Matti Uusitalo*