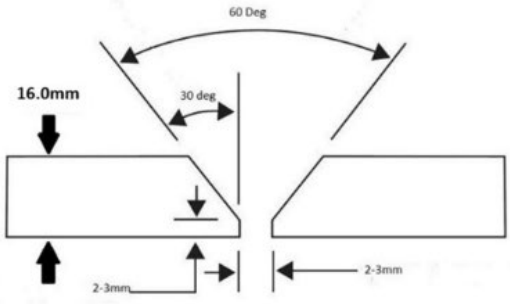
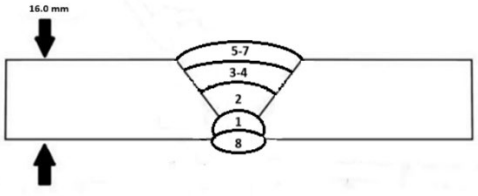
Procedure Qualification Record (PQR)			
MANUFACTURER	Mech-Tem (PTY) Ltd		Page 1 of 2
PQR No.	P004-25	**WPS No.**	W004-25
CODE AND YEAR EDITION	ASME BPVC IX:2023		
WELDER NAME	SS Mofokeng		
ID/PASSPORT No.	850131 5408 087		
WELDER STAMP No.	Not applicable		
PQR TEST DATE	2025/06/06		
REVISION	00		
Base Metals			
MATERIAL GRADE 1	ASTM A240M(21) ASME SA240M(21) 304/L	**GROUP No.**	P8 Group 1
MATERIAL GRADE 2	ASTM A240M(21) ASME SA240M(21) 304/L	**GROUP No.**	P8 Group 1
MATERIAL THICKNESS 1	16.0 mm		
MATERIAL THICKNESS 2	16.0mm		
BACKING MATERIAL	Weld Metal (Back Grinding)		
PIPE OUTSIDE DIAMETER	Not applicable		
TYPE OF JOINT	CJP Single V Groove Joint		
FILLER METALS			
NUMBER OF PROCESSES	One		
PROCESS	Gas Metal Arc Welding (GMAW)		
PROCESS TYPE	Semi Auto		
FILLER SPEC. (SFA)	AWS SFA A5.9		
FILLER CLASS No. (AWS)	ER-308LSi		
FILLER F No.	F6		
FILLER A No./CHEM	A8		
DEPOSITED WELD THICKNESS	16.0mm		
TRADE NAME	Uniarc		
FILLER SIZE	1.2 mm		
FILLER BATCH NUMBER	V14535		
SUPPLEMENTAL FILLER	N/A		
BACKING	Weld Metal		

PREHEAT AND INTERPASS TEMPRERATURE		SHIELDING GAS	
PREHEAT TEMP.	**17.2 ºC**	**GAS TYPE**	Coogar SP
HEAT METHOD	**No Method Used**	**% COMP**	Ar- 98% / Co2- 0%/ O2- 2%
TEMPERATURE CHECK	**Digital Thermometer**	**FLOW RATE**	15 Liter per Minute
INTERPASS TEMPERATURE	**180° C Maximum**	**ORIFICE**	16 mm
HEAT AREA	**75mm each side of weld**	**TRAILING GAS**	**None**
PREHEAT MAINTANCE	**None**	**BACKING GAS**	**None**
OTHER	**None**	**FLOW RATE**	**None**

JOINT DESIGN



PASS LOCATION AND SEQUENCE



PREPERATION METHODE	Grind	**MAX RUN THICKNESS**	4. 0mm
INITIAL CLEAN	Degreased	**GOUGE METHOD**	Back Grinding to sound metal
BACK GOUGING	Yes	**INTERPASS CLEAN**	Grind/Brush

ELECTRICAL CHARACTERISTICS

PROCESS	WELD PASS NO.	CONSUMABLE TYPY	FILLER SIZE	WELD POSITION	AMPS (A)	VOLTS (V)	TRAVEL SPEED (mm/min)	PROGRESS	TYPE AND POLARITY	HEAT INPUT (kJ/MM)
GMAW	1-8	ER-308LSi	1.2 mm	2G	176-184	23.5-23.7	275-315 mm/min	Not Applicable	DCEP	0.79-0.95

Procedure Qualification Record (PQR)					
MANUFACTURER	Mech-Tem (PTY) Ltd				Page 2 of 2
PQR No.	P004-25		**WPS No.**		W004-25
CODE AND YEAR EDITION	ASME BPVC IX:2023				
WELDER NAME	SS Mofokeng				
ID/PASSPORT No.	850131 5408 087				
WELDER STAMP No.	Not applicable				
PQR TEST DATE	2025/06/06				
REVISION	00				

WELDING TECHNIQUE					
SINGLE/MULTI ELECTRODE	Single Electrode	**SOLID/TUBULAR WIRE**	Solid	**PEENING**	None
SINGLE/MULTI PASS	Multi Pass	**ELECTRODE SPACE**	N/A	**C.T.W.D.**	Not Recorded
SIDES WELDED	One side	**TRANSFER MODE**	Short circuit	**TUNGSTEN TYPE**	N/A
STRING/WEAVE BEAD	Stringer & Weave	**OSCILLATION**	N/A	**TUNGSTEN SIZE**	N/A
POWER SOURCE	Constant Voltage	**WIRE FEED SPEED**	Amperage Controlled		

POST-WELD HEAT TREATMENT			
HEATING RATE	None	**COOLING RATE**	None
HOLDING TEMPERATURE	None	**MATHOD**	None
HOLDING TIME	None	**PWHT CERT No.**	None

NON-DESTRUCTIVE EXAMINATION		
TYPE OF TESTING	**ACCEPTABLE/NOT APPLICABLE**	**REPORT NO.**
RADIOGRAPHY	Acceptable	AMH-RT-25092
ULTRASONIC	N/A	
MAGNETIC PARTICAL	N/A	
DYE PENETRANT	N/A	
VISUAL	Acceptable	

DESTRUCTIVE TESTING

TENSILE TEST

MARK	WIDTH (mm)	THICKNESS (mm)	AREA (MM)	ULTIMATE LOAD (KN)	TENSILE (MPa) STRENGHT	FRACTURE LOCATION AND APPEARANCE
1	**20.35**	**15.75**	**320.15**	**190.80**	**595**	**PM Ductile**
2	**20.10**	**13.53**	**271.95**	**190.10**	**699**	**Weld Ductile**

BEND TEST: YES	**BEND ANGLE:** 180	**Mandrel Dia (mm):** 40
TYPE OF BEND TEST	**4 off Side bends**	
RESULT OF BEND TEST	**Acceptable**	
MACRO TEST	**N/A**	
FILLET FRACTURE	**N/A**	
MECHANICAL TEST REPORT No.	**Performed by VML Report MT9999/25/B**	

NOTES:	MANUFACTURER:	COMPILED BY: AMH Quality Services
REMARKS:	SIGNATURE:	SIGNATURE: AMH Quality Services Aubrey Harmse (ANDT Level 2)
	DATE:	DATE: 2025/06/19

COLUMBUS STAINLESS (Pty) Ltd
P O Box 133 Middelburg 1050 South Africa
Switchboard +27 13 247 9111 Fax +27 13 246 1681
Website: http://www.columbusstainless.co.za
A Subsidiary of ACERINOX S.A.

INSPECTION CERTIFICATE 3.1

ACCORDING TO EN 10204

CERTIFICATE NO	Rev	ISSUE DATE
3689480PED	1	2024-08-17

MANUFACTURER'S MARK		INSPECTOR'S STAMP		MELTING PROCESS	E/AOD

CUSTOMER

STEELBANK STAINLESS GAUTENG
17 VEREENIGING ROAD

South Africa

ORDER / ITEM No.	TARIFF	DELIVERY NOTE No.
KL01588/10	721921	DEL271837
CUSTOMER ORDER No.	**PART No.**	
sgp2517/0406/aug	N/A	

REQUIREMENTS

SPECIFICATIONS	MATERIAL GRADE
ASTM A240 / A240M-24	304L / 304
ASME BPVC IIA SA240 / SA240M-2023	304L / 304

CASE	MATERIAL	MASS	QTY
SHRP008445	4461972ABB	2300 Kg	4
SHRP008446	4461972ABA	2298 Kg	4

TOLERANCE ASTM A480/A480M ; ASME SA480/SA480M

PRODUCT No. 1 Hot rolled, annealed & pickled stainless steel plate

HEAT No.	446197	TYPE	
QUANTITY	8	TOTAL MASS	4598 Kg
DIMENSIONS	16 mm x 1500 mm x 3000 mm		

CHEMICAL COMPOSITION (%)

	C	S	P	Mn	Si	Cr	Ni	N
Min						18.0	8.0	
Max	0.030	0.030	0.045	2.00	0.75	19.5	10.5	0.10
Heat	0.025	0.001	0.029	1.34	0.40	18.2	8.1	0.06

MECHANICAL PROPERTIES

TEMPERATURE	DIRECTION	POSITION	Rp0.2 MPa	Rp1.0 MPa	Rm MPa	A50 %	HRBW HRBW
Ambient	Transverse	Requirement Min	205	250	515	40	
		Max					92
Ambient	Transverse	Head	274	313	637	61	81

INTERGRANULAR CORROSION

TEST	
ASTM A262 Practice E	PASS

HEAT TREATMENT (SOLUTION ANNEALED)

Anneal °C	Quench
1050 - 1100	AIR / WATER SPRAY

Melted and rolled in South Africa by Columbus Stainless (Pty) Ltd. This Material is PMI Tested.
Raw materials used conforms to EUROPEAN COUNCIL REGULATION (EU) 2023/1214 of 23 June 2023 amending Regulation (EU) No 833/2014.
Columbus Stainless (Pty) Ltd. certifies that the analysis and material on this certification is correct and meets the specifications stated.
This document is issued without alteration or erasure and may only be reproduced in full.
Visual and dimensional control: no exceptions. The delivery is in accordance with the order.
Material not weld repaired
This material is free from mercury contamination.
The radiation level exhibited by this material is not greater than the normal background level.
This material meets the Hardness requirement of NACE MR0175 / ISO 15156-3 : 2020 & NACE MR0103 / ISO 17945 : 2015
Columbus Stainless is ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified.

Certified by TÜV Rheinland Polska Sp. z.o.o. to European Directive 2014/68/EU for Pressure Equipment. Certificate no: 01 2627 ZA/M1-2100010.00
Certified by TÜV Rheinland UK Ltd to Pressure Equipment Safety Regulations 2016. SI 2016 No.: 1105 as amended. Certificate no: 2571 ZA/Q-23 0001

Marking: Material Code, Material No, Manufacturing Brand
Number on material might differ from this document due to a split in material after marking, with a character and/or number added to the end.

AMH Quality Services
2025/06/06
Aubrey Harmse (ANDT Level 2)

Columbus Stainless (Pty) Ltd
Hendrina Road, Middelburg
Mpumalanga, South Africa

Q. Snyman WE02
WORKS EXPERT

RENTTECH®
SOUTH AFRICA
Reg. No 2006/029015/07
Specialist Hirers And Suppliers of Welding and Construction Equipment

1 Manchester Road
Wadeville 1422
P.O. Box 14853
Wadeville 1422
Telephone: (011) 824-0410
Fax: (011) 824-0427

Product Conformance Report

Customer	Renttech South Africa
Invoice no	9200200446

No- WE/VW/2020-21/8400004857900003

Product	Class	Size	Heat No	Date of Issue
STAINLESS STEEL MIG WIRE BRIGHT DRAWN AND LAYER WOUND SPOOLS (BASKET SPOOL)	AWS SFA5.9 ER-308LSi	1.20mm	V14535	07.07.2020

Chemical Analysis w % All Filler material

Actual values acc. EN 10204 3.1

Element	C	Mn	Si	P	S	Cr	Ni	Cu	Mo
	≤0.030	1.000-2.500	0.650-1.00	≤0.030	≤0.030	19.50-22.00	09.00-11.00	≤0.750	≤0.750
AWS SFA5.9 ER-308LSi									
Actual results	0.0210	1.8300	0.8800	0.0270	0.0080	19.6100	9.1800	0.0500	0.0400

Mechanical Properties

	UTS N/MM2	YS (0.2%)	Elongation %	R.A%	Hardness
	–	–	–	–	–
:AWS SFA5.9 ER-308LSi					
Actual results	1818				

Remarks

Material is free from Mercury contamination. Material conforms te ASME Section-II, Part-"C" SFA 5.9 M AWS Classification
Actual chemical analysis and/ or mechanical test values have been obtained from samples of the Batch above, in accordance with EN 10204 para. 3.1
This product has been manufactured,tested and supplied in accordance with a Quality Assurance Program that fulfills the requirement of ISO 9001
We hereby certify that the product complies with the above mentioned standards

AMH Quality Services
2025/06/06
Aubrey Harmse (ANDT Level 2)

QC APPROVED

Radiographic Inspection Test Report

Glospech

53 Houtkop Road
Duncanville
Vereeniging

Date: 10/06/2025
Report No: AMH-RT-25092
Pages 1 of 1

Client Details

Job Description:	Test Plate	Client Order Number:	PQR
Client:	AMH	Project:	Procedure Qualification Record
Client Representative:	Aubrey Harmse	Job Location:	Glospech X-ray Bay

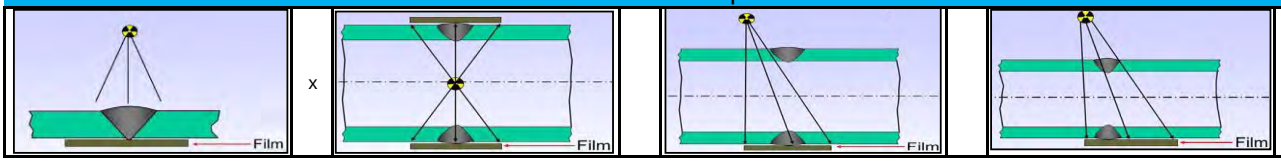
Test Component Details

Component Details:	Test Plate	Original Manufacturer:	SS Mofokeng 850131 5408 087
WPS/PQR	P004-25	Heat Treatment:	No Post weld heat treatment
Material:	ASTM A240M(21) ASME SA240M(21) 304/L	Weld Prep:	CJP Single V Groove Joint
Material:	ASTM A240M(21) ASME SA240M(21) 304/L	Extend of Test:	100% of weld
Manufacture Type:	GMAW 2G		

Test Specification

Code:	ASME BPVC IX:2023	Procedure:	Glospech RT001 Rev 00
Acceptance Criteria:	ASME BPVC IX:2023	Technique Sheet:	Glo-ASME-SWSI Rev 00

Test Technique



Test Equipment & Consumables

Radiation Source / Voltage:	Ir192	Radiation Source Size:	1mm x 2mm
Source Strength / Current:	10Ci	Source Strength / Current:	10Ci
Film Type:	100XD	Screen Type:	Lead
Screen Thickness:	0,025mm	Screen Placement:	Top and Bottom
Penetrameter Type:	6FEEN	Penetrameter Placement:	Source side
Processing Chemicals:	AFGA	Processing Temperature:	20

Test Results & Final Disposition

Weld/Item Identification	Welder Stamp	Weld Size	Weld Thickness	Film Position	Sensitivity Wire No:	SFD	Density	Exposure Time	Indication Type	Disposition
SS Mofokeng 850131 5408 087	N/A	300mm	16mm	0-30	10	400mm	2,6	8m10s	No recordable indication	ACC

Name	Technician	Interpreter	Client	Inspection Authority
	ACI APPEL	A EARLE		AMH Quality Services
Qualification	SNT-TC-1A Level 1	SNT-TC-1A Level 2		
Signature	Aci Appel	A. Earle		Aubrey Harmse (ANDT Level 2)
Date	10/06/2025	10/06/2025		2025/06/10

VAAL METALLURGICAL LABORATORY
Vaal Metallurgiese Laboratoriums (PTY) Ltd.
7 Bretts Lane, 21 Telford Street, Duncanville,
Vereeniging, 1939. Tel: 016 455 2000/1
081 251 7742 or 081 252 2494
E-mail: info@vml.co.za
Fax to E-mail: 086 653 1208

TEST REPORT IN ACCORDANCE WITH EN 10204

CUSTOMER:	AMH Quality Services (Pty) Ltd For Mech-Tem (Pty) Ltd	REPORT NUMBER:	9999/25/B
		DATE TESTED:	19/06/2025
ADDRESS:	13 Madission Street, Risiville, Meyerton, 1929	MATERIAL SPEC: *	ASTM A - 240 / ASME SA - 240 TP304L
TELEPHONE:	071 408 5018		
E-MAIL:	aubrey@amhquality.co.za	SAMPLE ID: *	PQR 2: P004-25, WPS: P004-25 Welder: S.S. Mofokeng, ID: 850131 5408 087 Process: GMAW Position: 2G Consumable: ER-308LSi 16mm
CONTACT:	Aubrey Harmse		

TEST: TENSILE AND BEND	SPECIFICATION: * ASME IX:2023	METHOD: VML-QLT-MTD-0001 & VML-QLT-MTD-0006

Tensile Test

TEST: TENSILE | SPECIFICATION: * ASME IX:2023 | METHOD: VML-QLT-MTD-0001

Sample	Dimensions (mm)	Area (mm²)	Gauge (mm)	Yield Load (FeL) (kN)	Max Load (Fm) (kN)	Yield Stress (ReL) (MPa)	UTS (Rm) (MPa)	Elongation (A) (%)	ROA (Z) (%)	Fracture Location
Specification and customer requirements: ASTM A - 240 / ASME SA - 240 TP304L						170 Min	485 Min			
A: PQR 2: P004-25	20.35 x 15.75	320.51	50	106.00	190.80	331	595	60	69	PM Ductile
B: PQR 2: P004-25	20.10 x 13.53	271.95	50	102.00	190.10	375	699	38	11	Weld Ductile

Bend Test

TEST: BEND TEST | SPECIFICATION: * ASME IX:2023 | METHOD: VML-QLT-MTD-0006

Bend Type	Mandrel Diameter (mm)	Bend angle (Deg.)	Requirements - Comments:
Side (4T)	40	180°	Acceptable
Side (4T)	40	180°	Acceptable
Side (4T)	40	180°	Acceptable
Side (4T)	40	180°	Acceptable

AUTHENTIC IF STAMP IS RED

sanas Testing Laboratory T0531

Tests requested, in accordance with spec. provided	x
Tests requested, NOT in accordance with spec. provided	
No requirements provided / For Info Only	

Remarks: Heat Treatment. As Welded.

AMH Quality Services
2025/06/19
Aubrey Harmse (ANDT Level 2)
WITNESSED BY

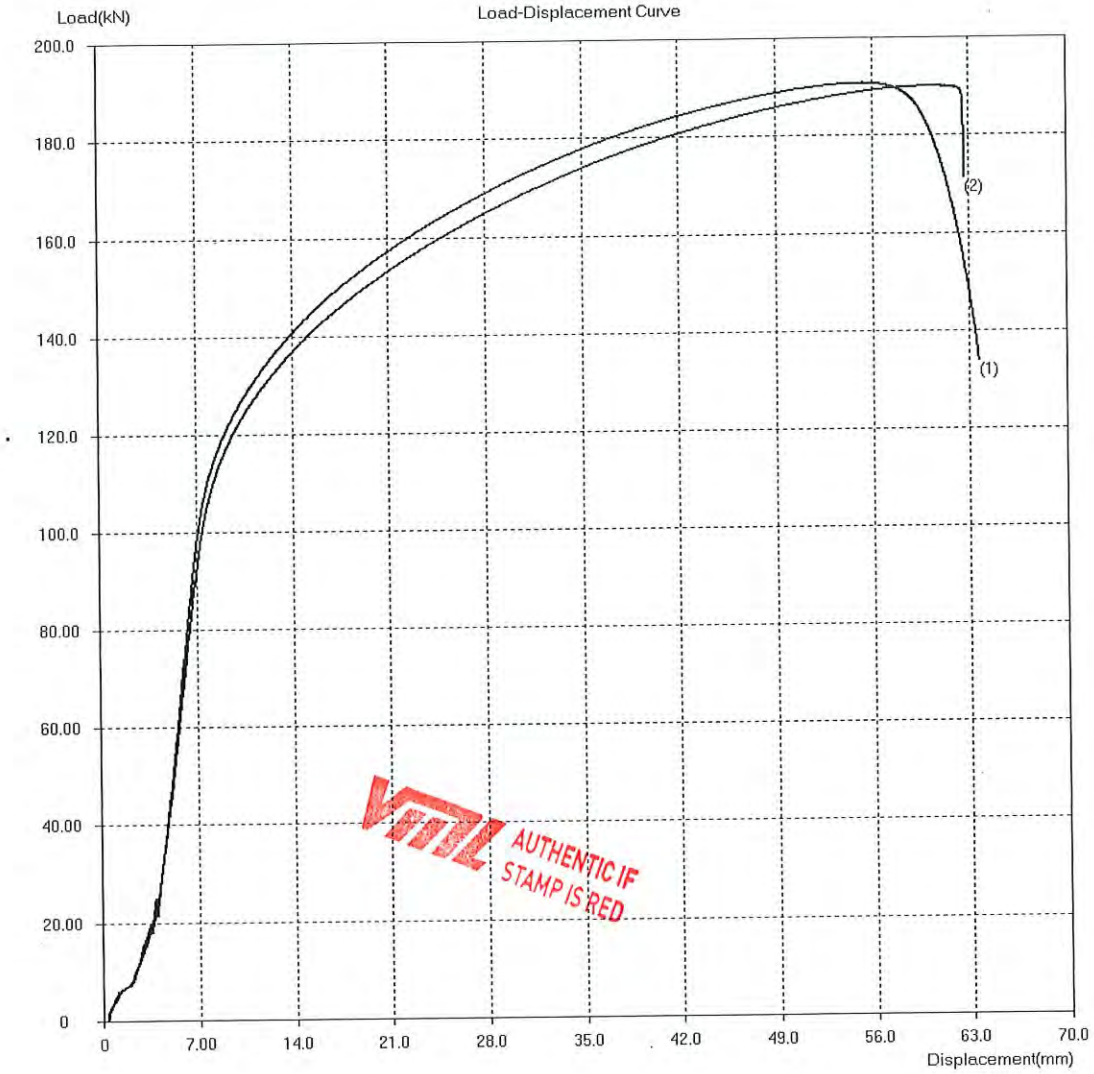
L.J. Cloete 19/06/2025
TECHNICAL SIGNATORY

VML is accredited for the following methods: VML-QLT-MTD-0001 to 0011, 0013, 0022, 0030, 0031 and (Supporting international standards).

VML TENSILE TEST REPORT

CUSTOMER: AMH
VML PROJECT NO: MT9999-25
TYPE: Flat
TEST DATE: 2025/06/19

	SampleNo	Size	Lo	FeL	Fm	ReL	Rm	So	A	Z	
		(mm)	(mm)	(KN)	(KN)	(Mpa)	(Mpa)	(mm^2)	%	%	
1	PQR P004-25	20.35*15.75	50	106.00	190.80	331	595	320.51	60	69	PMD
2	PQR P004-25	20.10*13.53	50	102.00	190.10	375	699	271.95	38	11	WELD



TESTER:

AMH Quality Services
2025/06/19
Aubrey Harmse (ANDT Level 2)

AUDITING:

AMH Quality Services

2025/06/06

Aubrey Harmse (ANDT Level 2)

GEREGISTREERDE WOON- EN POSADRES

1. Bewaar die boekie van u GEREGISTREERDE WOON- EN POSADRES in hierdie sakkie.

2. Indien u van adres verander het, of indien bestaande reëls of huidige adres, bv. straatnaam en/of -nommer, nie verander het nie, moet die vorm KENNISGEWING VAN ADRESVERANDERING, wat in die sakkie agter in die identiteitsboekmerk is, binne vyftien dae na verandering aan 'n meld en moet dit gedoen word by 'n distrik naby die nuwe straat- distrikkantoor van die DEPARTEMENT VAN BINNELANDSE SAKE

REGISTERED RESIDENTIAL AND POSTAL ADDRESS

1. Keep the book in your REGISTERED RESIDENTIAL AND POSTAL ADDRESS in this pocket.

2. If you have changed your address or if particulars of your present address, e.g. name of street and/or street number, are not correct, the NOTICE OF CHANGE OF ADDRESS form in the back of the identity document must be filled in within fifteen days after the change and it must be handed in at any office of the DEPARTMENT OF HOME AFFAIRS nearest to the new residential address.

1

I.D.No. 8501315408 08 7

S.A.BURGER/S.A.CITIZEN

VAN/SURNAME
MOFOKENG

VOORNAME/FORENAMES
SENEPHANE SARIEL

GEBOORTEDISTRIK OF LAND/
DISTRICT OR COUNTRY OF BIRTH
SOUTH AFRICA

GEBOORTEDATUM/
DATE OF BIRTH
1985-01-31

DATUM UITGEREIK
DATE ISSUED
2001-11-20