WELDER PERFORMANCE QUALIFICATION CERTIFICATE

Certificate No.: ROT 2023.47616

Designation: EN ISO 9606-1:2017 — 135 P BW FM1 S s3 PA ss nb
135 P BW FM1 S s12 PA ss mb

Welder's identification: ID card — Verified

Employer: Covebo

Welder's name: K. Mrozek

Place of birth and date: Szczecin, 24-03-1996

	Weld test details				Range qualified				
Welding process(es)	1:	135	2:	135	1:	135 /138	2:	135 /138	
Transfer mode	1:	D	2:	S	1:	D, S, G, P	2:	S, G, P	
Product type (P/T)	P				P, T				
Type of weld	BW				BW				
Filler material (Group)	1:	FM1	2:	FM1	1:	FM1, FM2	2:	FM1, FM2	
Filler material (Designation)*	1:	S	2:	S	1:	S, M	2:	S, M	Photo (if required)
Parent material group(s)	1:	1.2	2:	1.2	1 up to and incl. 11				Identification of test pieces:
Shielding gas	1:	M21	2:	M21	1:	-	2:	-	2023-036-001, Mrozek
Other (e.g. backing gas)	-				-				Welding Procedure Specification:
Type of current and polarity	1:	DC+	2:	DC+	1:	-	2:	-	135 P BW FM1 S t15 PA ml ss nb
Material thickness (mm)	t1:	15	t2:	15	t1:	Unlimited	t2:	Unlimited	
Deposited thickness (mm)	s1:	3	s2:	12	s1:	3-6	s2:	≥3	Job knowledge acceptable ☐
Outside pipe diameter [D] (mm)	-				≥500 fixed pipe, ≥75 rotated pipe (PA)				Job knowledge not reviewed ☑
Welding position(s)	1:	PA	2:	PA	PA				Supplementary fillet weld test
Weld details	1:	ss nb	2:	ss mb	1:	ss nb/ ss mb/ bs/ss gb/ss fb	2:	ss mb/ bs	No
Multi-layer / single layer	1:	-	2:	-	1:	-	2:	-	
Date of welding	10-03-2023						Examiner:		A.T. Konst
Place of welding	Heerenveen								
Type of inspection/ test	Performed & accepted / Not tested								Place: Barendrecht
Visual	Performed & accepted				-				Date: 21-03-2023
Radiography	-				Not tested				
Ultrasonic	Performed & accepted				-				Qualification valid until:
Magnetic Particle	-				Not tested				10-03-2025
Dye penetrant	-				Not tested				
Macro	-				Not tested				DNV Business Assurance B.V.
Fracture	-				Not tested				Signature
Bend	-				Not tested				
Other	-				Not tested				Stamp F. Lafleber

See reverse side for confirmation statement by employer and prolongation by DNV Business Assurance B.V.
Additional information may also be stated in the column "Supplementary remarks".

*note: Type of covered electrode or flux cored wire used in the qualification test of welders for root run welding without backing (ss, nb) is the type of covering electrode or type of fluxcored wire qualified for root run welding in production with no backing (ss, nb)

WELDER PERFORMANCE QUALIFICATION CERTIFICATE

Certificate No.: ROT 2023.47616

Supplementary remarks (Information regarding job knowlegde, certificate issued on the basis of previous approval etc.)

-

Method for extension of certificate (EN ISO 9606-1:2017)

	9.3 a)	Retest of welder after 3 years (conformation every 6 months). Validation expires after 3 years.
x	9.3 b)	Revalidation of certificate every 2 years (confirmation every 6 months).
	9.3 c)	Certificate remains valid (confirmation every 6 months). The following details must be provided:

Employer: -

ISO3834-2 or ISO 3834-3 Certificate no.: -

Issue date: - **Issued by:** -

	Employers statement regarding validity condition				
	Ref. Inspection / test reports	**Place**	**Date**	**Function/ Title**	**Signature**
1					
2					
3					
4					
	Revalidation by DNV Business Assurance B.V. until …				
	Employers statement regarding validity condition				
	Ref. Inspection / test reports	**Place**	**Date**	**Function/ Title**	**Signature**
1					
2					
3					
4					
	Revalidation by DNV Business Assurance B.V. until …				
	Employers statement regarding validity condition				
	Ref. Inspection / test reports	**Place**	**Date**	**Function/ Title**	**Signature**
1					
2					
3					
4					
	Revalidation by DNV Business Assurance B.V. until …				

This Certificate of Competence is valid only after signing by the certificateholder as per examination date. The validity conditions of this Certificate of Competence are specified in the relevant standard, endorsed by the Curriculum Committee "Verbindingstechnieken".

This Certificate of Competence is approved for application under PED 2014/68/EU by DNV Business Assurance B.V. (CAB 2388, 'beschikking 2021-0000189718');
This Certificate of Competence is approved for application under DNV Classification Rules and Offshore Standards;

Note: Assessment for specific application to be performed on the application project itself.
This certificate is property of DNV Business Assurance B.V. Misuse of this Certificate of Competence will render this certificate invalid.
In compliance with Dutch legislation, reference is made to DNV document "Reglement behandeling Klachten, Bezwaar en Beroep" for dealing with Complaints, Objections and Appeals. This document can be downloaded at DNV website https://www.dnv.nl/certificering/persoonscertificatie

CERTIFICATIEOVEREENKOMST

Ondergetekende,

Achternaam: Mrozek Voorletters (volgens ID-bewijs): K.M

Geb. datum: 24-03-1996 Geb. plaats/land: Szczevin (polen)

Adres: Primulastraat 54 Postcode/Woonplaats: Heerenveen

E-mail adres: _____ Telefoonnummer: _____

Verklaart in aanmerking te willen komen voor certificatie door DNV Business Assurance B.V. voor:

☑ **EN ISO 9606** ☐ **EN ISO 14732** ☐ **AWS D1.1/D1.1M**

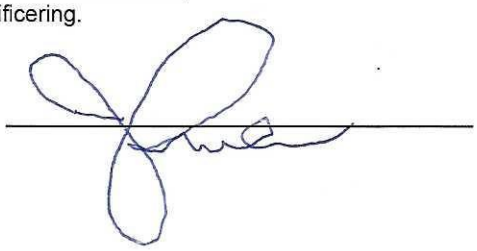
☐ **ASME BPVC.IX** ☐ **Other** .....

verklaart dat hij/zij op de hoogte is van, zoals vermeld op de website van DNV (www.dnv.nl/vakbekwaamheid, in de betreffende sectie):

- De DNV Certificatie-voorwaarden zoals gespecificeerd in het van toepassing zijnde certificatieschema;
- De van toepassing zijnde examenvoorwaarden;
- De van toepassing zijnde procedure voor klachten, bezwaar en beroep en, door ondertekening van deze verklaring, dat hij/zij de voorwaarden daarvan aanvaardt en zal naleven;
- Het van toepassing zijnde beleid inzake opschorting en intrekking van certificatie;
- De privacyverklaring van DNV;
- Geen informatie over het examen of examenmateriaal zal delen met of vrijgeven aan derden en zich zal onthouden van frauduleus gedrag in verband met het examen;
- Aanvaardt bij ondertekening van deze overeenkomst (de Overeenkomst) dat de "Algemene Voorwaarden van DNV: Persoonscertificering" van DNV van toepassing zijn op deze Overeenkomst en dat hij/zij zich zal houden aan de bepalingen van deze Overeenkomst en de "Algemene Voorwaarden voor Persoonscertificering" van DNV;
- De mogelijkheid om (binnen redelijke grenzen) aanspraak te maken op een aangepast examen.

Voorts verklaart de ondergetekende bij het verkrijgen van het certificaat de volgende geldigheidsvoorwaarden te aanvaarden:

- Zich te houden aan de bepalingen van het certificatieschema;
- Zich uitsluitend te beroepen op de certificatie met betrekking tot het vakgebied waarvoor de certificatie is toegekend en het certificaat niet misleidend te gebruiken;
- De certificatie niet te gebruiken op een wijze die DNV in diskrediet zou brengen, dit ter beoordeling aan DNV;
- Het certificaat en indien van toepassing het pasje uitsluitend te gebruiken voor de geldigheidsduur en geen aanspraak meer te maken op de certificatie met verwijzing naar DNV of de certificatie zelf, en alle door DNV uitgegeven certificaten na schorsing of intrekking van de certificatie aan DNV te retourneren;
- DNV onmiddellijk in kennis te stellen van wijzigingen in functie, werkgever, adres of andere informatie die van invloed kunnen zijn op het voldoen aan de certificatievoorwaarden;
- Ermee in te stemmen dat DNV een herinnering stuurt voor hercertificering.

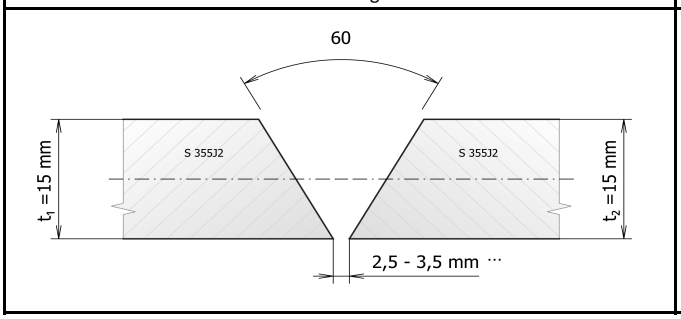
Datum: 10-03-2023 Handtekening: 

COVEBO	EN ISO 15609-1:2019 Welding Procedure Specification **(WPS)**	a. Blankenstein 170A b. Meppel c. stelwagen@covebo.nl d. www.covebo.nl

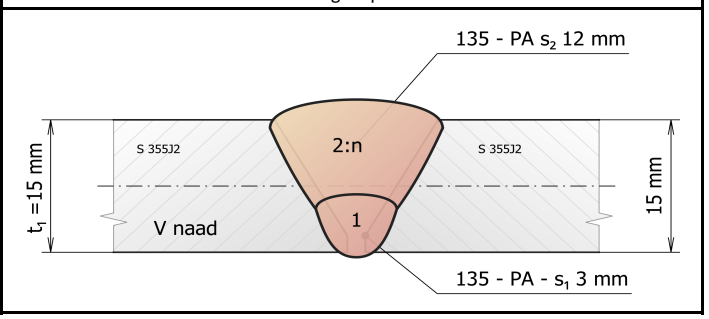
WPS No. :	**135 P BW FM1 S t15 PA ml ss nb rev. 0**	Method of Preparation and Cleaning :	**Degrease, Brushing, Clean metal**
Procedure No. :			
Manufacturer:	**Covebo**	Parent Material Designation (ISO/TR 20172):	**S355J2**
Project :	**2023-036**	Material thickness (mm) :	**15 mm**
Welding Process :	**135 (D) Kortsluit - (S) Sprayboog**	Outside diameter (mm) :	**n.a.**
Joint and weld type :	**BW ml, V- joint, 60°**	Welding Position :	**PA**

Weld Preparation Details (Sketch)

Joint Design



Welding Sequences



Welding Details

Run	Process	Size of Filler Metal (ø, mm)	Current A	Voltage V	Type of Current / Polarity	Wire Feed Speed	Travel Speed (mm/min)	k-Factor	Heat Input [1] (KJ/mm)
1	**135**	**Ø 1.0**	**100 - 115**	**17 - 19**	**DC / +**	**n.a.**	**150 - 200**	**0,8**	**0,6 - 1.0**
2 - n	**135**	**Ø 1.0**	**210 - 230**	**28 - 30**	**DC / +**	**n.a.**	**300 - 400**	**0,8**	**0,8 - 1.4**

Designation of welding consumable and trade name:	**EN-ISO 14341-A G42 4 M21 3Si1 S** **Bolher EMK6**		
Details of Back Gouging/Backing :	**n.a.**		
Any Special Baking or Drying :			
Gas / Flux : - Shielding :	**ISO 14175-M21-ArCo2 (80% Ar, 20% CO^2)**		
- Backing :	**n.v.t**		
Gas Flow Rate: - Shielding :	**15 - 18 ltr/min**	Degree of mechanization :	**semi-automatic welding (MAG)**
- Backing :	**n.a.**	*Other information :*	
Tungsten Electrode Type/Size :	**n.a.**	e.g. weaving (maximum width of run) :	**to be determined in works**
Preheat Temperature [2] :	**≥ 10 °C**	Oscillation : (amplitude, frequency, dwell time)	**n.a.**
Interpass Temperature :	**n.a.**		
Pre-heat maintenance temperature :	**n.a.**	Pulse welding details :	**n.a.**
	n.a.	Distance contact tube/work piece :	**15 - 20 mm**
Post-Weld Heat Treatment and/or Ageing :			
Time, Temperature, Method :	**Digital contact**	Plasma welding details :	**n.a.**
Heating and Cooling Rates :	**n.a.**	Torch angle :	**to be determined in works**

Remarks : [2] = **Preaheating with acetylene and oxygen!!**

[1] = **Only when hardness requirements apply**

Alle lasnaad voorbereidingen dienen voorafgaand aan het lassen schoongeslepen te zijn, zodat een geschikte laskwaliteit haalbaar is !!

Manufacturer : (name, signature, date)	**Customer :** (name, signature, date)	**Authority :** (name, signature, date)
A.T.K Lasopleidingen & Advies Andre Konst		☐ Witnessed ☑ Reviewed And found to comply with: DNV Date: Sign: F. Laffeber
Date : 10-03-2023	**Date :**	**Date :**

BÖHLER EMK 6

Solid wire, unalloyed

Classifications

EN ISO 14341-A	EN ISO 14341-B	AWS A5.18	AWS A5.18M
G 42 4 M21 3Si1	G49A 4U M21 S6	ER70S-6	ER48S-6
G 42 4 C1 3Si1	G49A 4U C1 S6		

Characteristics and typical fields of application

Copper solid wire suited for universal GMAW application in structural steel engineering, and provides excellent feeding characteristics. Thanks to the good mechanical properties this filler wire is optimally suited for welding thick-walled components. The non copper coated version of the solid wire BÖHLER EMK 6 TOP is designed for low spatter formation and excellent feeding properties for extremely high wire feed rates. These types are especially suited for robotic welding.

Base materials

Steels up to a yield strength of 420 MPa (60 ksi)

S235JR-S355JR, S235JO-S355JO, S235J2-S355J2, S275N-S420N, S275M-S420M, P235GH-P355GH, P275NL1-P355NL1, P215NL, P265NL, P355N, P285NH-P420NH, P195TR1-P265TR1, P195TR2-P265TR2, P195GH-P265GH, L245NB-L415NB, L245MB-L415MB, GE200-GE240, ship building steels: A, B, D, E, A 32-E 36

ASTM A 106 Gr. A, B, C; A 181 Gr. 60, 70; A 283 Gr. A, C; A 285 Gr. A, B, C; A 350 Gr. LF1; A 414 Gr. A, B, C, D, E, F, G; A 501 Gr. B; A 513 Gr. 1018; A 516 Gr. 55, 60, 65, 70; A 573 Gr. 58, 65, 70; A 588 Gr. A, B; A 633 Gr. C; A 662 Gr. B; A 711 Gr. 1013; A 841 Gr. A; API 5 L Gr. B, X42, X52, X56, X60

Typical analysis of solid wire (wt.-%)

	C	Si	Mn
wt.-%	0.08	0.9	1.45

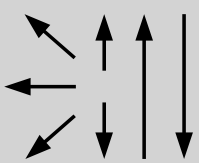
Mechanical properties of all-weld metal

Condition	Yield strength R_e	Tensile strength R_m	Elongation A (L_0=5d_0)	Impact work ISO-V KV J	
	MPa	MPa	%	+20 °C	–40 °C
u	**440** (≥ 420)	**560** (500 – 640)	**30** (≥ 20)	**160**	**80** (≥ 47)
u2	**440** (≥ 420)	**540** (500 – 640)	**29** (≥ 20)	**120**	**50** (≥ 47)
s	**380**	**490**	**30**	**160**	

u untreated, as welded – shielding gas Ar + 15 – 25 % CO_2
u2 untreated, as welded – shielding gas 100 % CO_2
s stress relieved, 620 °C/2h – shielding gas Ar + 15 – 20 % CO_2

A.T.K Lasopleidingen & Advies
Andre Konst

Operating data



Polarity:	Shielding gases:	ø (mm)
DC (+)	Argon + 15 – 25 % CO_2	0.8
	100 % CO_2	1.0
		1.2
		1.6

Approvals

TÜV (3036.), DB (42.014.11), ABS (3SA, 3YSA), CWB (X), DNV (III YMS), GL (3YS), LR (3S, 3YS H15), LTSS, SEPROZ, CE

DNV ☐ Witnessed ☑ Reviewed And found to comply with: Date: Sign: F. Laffeber

Visual examination report

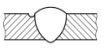
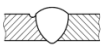
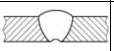
9606-1/AWS D1.1 / AWS D1.6 / ASME IX

Description of test piece

WPQ/PQR according to	: NEN-EN – 9606-1 2017	Report no.	: VLI 20230310-001
(p)WPS no.	: 135 P BW FM1 S t15 PA ml ss nb	Welder	: Karol Mrozek
Test piece no.	: 2023-036-001	ID type	: ID : Gecontroleerd
Welding Process	: 135 (D) + (S)	ID number	: AYS892656
Company / Location	: Covebo Meppel	Date and place of birth	: 24-03-1996 Szczecin

Base material		Dimensions (mm)	**Weld height:**
Material (a): S355J2	Material (b): S355J2	200-150-15	**s1** = 3 **mm - s2 = 12 mm**

Limits for imperfections

Desctription ISO 5817 / ISO 6520-1			AWS D1.1 / D1.6	ASME IX	ISO 5817	Figure	Limits (mm)	Measured (mm) Acceptable Y/N
1.1	100	Crack	6.1 (1) / 4.6.2	QW-193.1.1	B	---	Not permitted	Y
1.2	104	Crater crack	6.1 (1) / 4.6.2	QW-193.1.1	B		Not permitted	Y
1.3	2017	Surface pore	6.1 (8) / 4.6.2	QW-193.1.1	B		Not permitted	Y
1.4	2025	End crater	6.1 (3) / 4.6.2		B		Not permitted	Y
1.6	4021	Incomplete root penetration	6.1 (2) / 4.6.2	QW-193.1.1	B		Not permitted	Y
1.7	5011	Continous undercut			B		$h \leq 0{,}05t$ max.0,5	Y
1.7	5012	Intermittent undercut			B		$h \leq 0{,}05t$ max.0,5	Y
1.8	5013	Shrinkage groove	6.1 (7) / 4.6.2		B		Short imperfections $h<0{,}05t$ max.0,5	Y
1.9	502	Excess weld metal			C		$h \leq 1+0{,}15b$ max.7	Y
1.11	504	Excess penetration			C		$h \leq 1+0{,}6b$ max.4	Y
1.12	505	Incorrect weld toe			B		$\alpha \geq 150°$	Y
1.13	506	Overlap			B		Not permitted	Y
1.14	509	Sagging	6.1 (7) / 4.6.2		B		Short imperfections $h \leq 0{,}05t$ max.0,5	Y
1.14	511	Incompletely filled groove			B		Short imperfections $h \leq 0{,}05t$ max.0,5	Y
1.15	510	Burn through		QW-193.1.1	B	---	Not permitted	Y
1.17	515	Root concavity	6.1 (7) / 4.6.2		B		Short imperfections $h \leq 0{,}05t$ max. 0,5	Y
1.18	516	Root porosity		QW-193.1.1	B	---	Not permitted	Y
1.19	517	Poor restart			B	---	Not permitted	Y
1.22	601	Stray arc			B	---	Not permitted	Y

Joint geometry

3.1	507	Linear misalignment plate			B		$h \leq 0{,}1t$ max. 3	n.a.
3.1	507	Linear misalignment pipe			B		$h \leq 0{,}5t$ max. 2	Y

Authorisation

Visual inspector	Certifying authority
Name : Andre Konst Date : 10-03-2023 Signature : A.T.K Lasopleidingen & Advies Andre Konst	Name : Date : Signature : DNV ☐ Witnessed ☑ Reviewed And found to comply with: Date: Sign: F. Lafleber

MATERIAAL METINGEN TESTGROEP

MME GROUP

ilac-MRA INSPECTION RvA I 019

23011 **NON DESTRUCTIVE TESTING REPORT** Page 1 of 1 **MME order no.: 2304105** Report no.: **RE744634185** rev.0

Client:	ATK Lasopleidingen & Advies	Object no.:	2023-036-001		
Reference client:	Mr. A. Konst	Subject:	1x Testplate - LK Covebo Meppel		
Project:	Welder Qualification				
Order number:	2023-036	Drawing no.:	Not supplied	Heat treat:	n.a.
Request no.:	--	Material type:	C-St.	Mat. thickn.:	15 mm
Test location:	MME Heerenveen - The Netherlands	Weld process:	135 - PA	Weld prep.:	V

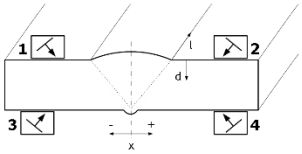
ULTRASONIC EXAMINATION — UT

Specification:	ISO 17640:2018* Technique 1 Testing level: B	Ref. block ID:	MM632	Description:	SDH 3 mm (EN-ISO) - 20mm
Acceptance:	ISO 11666:2018* level: 2	Time base range:	0 - 150 mm		
Procedure:	MM 48100 E Revision: 20	Sensitivity:	DAC + Transfer		
Equipment ID:	4938 Description: Olympus Epoch 600	Transfer cor. (dB):	3	Couplant:	Waterbased
Cal. block ID:	130302-137 Description: K1 (ISO2400) + K2 (ISO7963)	Surface condition:	As welded	Object temperature:	Approx.16°C

Probes

Serial no.:	813181	1324566	76258				
Manufacturer & type:	DL4R	Olympus AM4R	GE MWB				
Crystal size:	3.5 x 10 mm	8x9 mm	8x9 mm				
Frequency (MHz):	4	4	4				
Angle(°):	0	70	60				
Index (mm):	--	10.5	12.5				

Scan plan 1 **Probe positions:**
☒1 ☒2 ☒3 ☒4 ☐5 ☐6
Shape: Butt joint V



Part examined: Testplate 2023-036-001; 100% UT examined as requested by client.

Welder(s): K. Mrozek

Remarks: During inspection no relevant indications were observed. Welding position: PA Date finished welding: 10-03-2023

Date of examination: 15-03-2023

Result according to procedure and acceptance criteria: **Acceptable** With reportable indications.: NO

Inspector(s):	Cert. & Level:	Manufacturer:	Client:	Cert. Authority:
R.H. van Wieren	ISO9712 level 2			☐ Witnessed ☑ Reviewed And found to comply with: DNV Date: Sign: F. Laffeber
Date of report: 15-03-2023 wieren_r		Fabr. date/time:	Date:	Date:

Reinder van Wieren MME GROUP

* The applied version is specified in the procedure.

PROCES-VERBAAL, THEORIE-/ PRAKTIJK EXAMEN LASSEN

Examenorganisatie: MT Veendam

Naam examinator in blokletters **Handtekening**

Examinator: Andre Konst

Beoordelaar: Andre Konst

Check ID-kandidaten akkoord Akkoord
Indien bijzonderheden, dit bij 13 rapporteren

Check Certificatieovereenkomst akkoord Akkoord
Indien bijzonderheden, dit bij 13 rapporteren

Examenpersoneel dient volledig onafhankelijk te zijn en bevestigt bij ondertekening van dit proces-verbaal, zijn/haar onafhankelijkheid t.o.v. de kandidaten, de opleider en eventuele werkgever.

Examenpersoneel verklaart bij ondertekening van dit proces-verbaal dat de examens zijn afgenomen in conformiteit met gestelde normering.

Nr.	Onderwerp	Invullen/ Opmerkingen
1.	Soort examen:	☑ Praktijk Lassen ☐ Theorie Lassen
2.	Examenprofiel:	EN 9606-1
3.	Examendatum:	10-03-2023
4.	Examenlocatie:	☑ Voldoet ☑ Voldoet niet
5.	Examenplaats:	Heerenveen
6.	Aantal certificaten:	1
7.	a) Geslaagde certificaten: b) Gezakte certificaten:	1
8.	(p)WPS aanwezig en check naar Norm:	☑ Voldoet ☐ Voldoet niet
9.	Examen lasser uitgevoerd conform variabelen (p)WPS.	☑ Voldoet ☐ Voldoet niet
10.	Equipment gecontroleerd en gekalibreerd	☑ Voldoet ☐ Voldoet niet

DNV Witnessed Reviewed And found to comply with: Date: Sign: F. Laffeber

11.	Waren er bijzonderheden met de examenlocatie? Geen bijzonderheden.
12.	Waren er bijzonderheden met het lasexamen? Geen bijzonderheden.
13.	Waren er bijzonderheden tijdens het lasexamen? Neen geen bijzonderheden.
14.	Kort examenverslag Examen is goed verlopen.

Akkoord Examinator (namens DNV)

Naam in blokletters: ..... Konst ..... Handtekening: .....

A.T.K Lasopleidingen & Advies
Andre Konst

Datum: ..... 16-03-2023 .....

DNV
Witnessed ☐ Reviewed ☑
And found to comply with:
Date:
Sign: F. Laffeber