TUV INDIA PRIVATE LIMITED

Technical Inspection Services



CERTIFICATE OF COMPLIANCE

Initial Certificate No: COC/API-20A/FLS-III/01/2019

Certificate No: TUV/9309/22-23/API 20A/0005

Job.No: 8120633187

Foundry Qualification for Castings for Use in the Petroleum and Natural gas Industries

As per API-20A-2nd Edition, August-2017. Addendum-2, April-2020.

Name and Address of Manufacturer:

M/s.Flowlink systems (P) Ltd. Unit-III,

SF No: 395/2B2, Karegoundenpalayam-Village,

Kempanaickenpalayam, Annur,

Coimbatore-641 653. Tamilnadu, India

This Certificate of Compliance is issued upon the request of the manufacturer to confirm that the manufacturer has demonstrated compliance to the foundry qualification requirements of specification API-20A 2nd Edition, August-2017. Addendum-2, April-2020, "Carbon steel, Alloy steel, Stainless steel, and Nickel Base Alloy Castings for Use in the Petroleum and Natural Gas Industry" to the Casting Specification Levels (CSL) given below.

Material Group/CSL Qualified:

Group A-Carbon Steel- CSL-1,2,3

Group C-Stainless Steel (Other than duplex)-CSL-1,2,3

(See Annexure-I for details)

The Manufacturer's Manufacturing Process Specifications (MPSs) & Qualification Test Records (QTRs) have been evaluated and Qualification Casting tests were Witnessed and found to be in Compliance with the requirements of API-20A 2nd Edition, August-2017. Addendum-2, April-2020, within the Scope and subject to conditions as per Annexure-I. This certificate of compliance does not exempt the manufacturer from its responsibility to ensure that its products are always in compliance with API and Customer specification requirements.

Place: Pune, India

Date of Issue: 06/08/2022

validity: 05/08/2025

Mr. Jayaprakash Hiremath AVP-PED, ASME, TRCU, CCOE,

UKCAS & Special Inspection Services



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Condition of Issue:

Qualification Castings as per API-20A 2nd Edition, August-2017.Addendum-2, April-2020, have been produced, tested and evaluated by the casting supplier and witnessed by the surveyor to TUV India Pvt.Ltd. in order to establish qualification for a range of products listed in this Annexure.

The Manufacturing Process Specification (MPS) files as referenced below, submitted by the manufacturer, have been reviewed.

Manufacturing Process:

MPS.No:FLS/MPS/CS/U3 Rev.0

Specification (MPS) ref.

MPS.No:FLS/MPS/SS/U3 Rev.0

Verification of Qualification Test records :

QTR.No:09 Rev.00 & 10 Rev.00

QTR.No:11 Rev.00

This Certificate of Compliance is issued and is applicable only to the firm stated on above referred COC, and for the specified product, and/or the manufacturing plant stated and is Non-Transferable.

Welding shall be performed using weld procedures qualified in accordance with ASME BPVC, Section IX for CSL-3.

This statement of compliance is valid only for those product Range which are covered in the QTR within the limits of CSL qualification.

This Certificate of Compliance is valid for 3 years from date of issue, i.e. till 05th August 2025, subject to satisfactory annual surveillance audits and within the limits of qualification of production castings for each CSL, and subject to manufacturer maintaining the same production processes including metal refining steps, maintaining the same process control variables, design and maintenance of patterns, same processes of inspection, quality control, marking, traceability and record retention (10 years) as per the requirements of API 20A. This COC does not constitute Certification to API Monogram Program as per API Q1.

Place: Pune, India

Date of Issue: 06/08/2022

validity: 05/08/2025

Mr.Jayaprakash Hiremath AVP- PED, ASME, TRCU, CCOE, UKCAS & Special Inspection Services



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Reference Standard			API-20A 2 nd Edition, August 2017. Addendum-2, April-2020.				
API Material Group/ CSL	Level		Group A-Carbon Steel /CSL-1,2,3				
Manufacturing Process S	pecification	CONTROL OF THE PARTY OF THE PAR	MPS.No: FLS/MPS/CS/U3 Rev.0				
Manufacturing Doc Ref			, 7508_API				
Qualification Test Record	No.	QTR.No:0					
		QTR.No:1					
ASTM Ref.			16-18 Gr.WCC				
	Tested and O		lified Weight Range				
Products and Manufacturing Process(es)	Tested thickness (mm)	Tested Casting Weight (Kgs)	Qualified Casting Weight Pounds (Kgs)				
2" 600 PLUG BODY FE/ Co2 Sand Mold Process.	55	27.5	CSL-3: 1-499Pounds (1-226 Kgs) CSL2: 1-2499pounds(1-1134Kgs) CSL1:All Weight ranges.				
8" 900 SCV BODY/ Co2 Sand Mold Process.	100	360.0	CSL-3:500-2499Pounds(227-1134Kgs) CSL2: 1-2499pounds(1-1134Kgs) CSL1:All Weight ranges.				



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Reference Standard		API-20A 2 nd Edition, August 2017. Addendum-2, April-2020.			
API Material Group/ CSL Level			Group C- Stainless steel (Other than duplex)/CSL-1,2,3		
Manufacturing Process Specification			MPS.No: FLS/MPS/SS/U3 Rev.0		
Manufacturing Doc Ref			7510 API		
Qualification Test Record	No.	QTR.No:11 Rev.00			
ASTM Ref.			ASTM A351-18 Gr. CF8M		
	Tested and Q	ualif			
Products and Manufacturing Process(es)	Tested thickness (mm)	Tested Casting Weight (Kgs)		Qualified Casting Weight Pounds (Kgs)	
2" 1500 Y STRAINER BODY/ Co2 Sand Mold Process.	55		45.5	CSL-3: 1-499Pounds (1-226 Kgs) CSL2: 1-2499pounds(1-1134Kgs) CSL1:All Weight ranges.	



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Table-1-As Cast Weight Range

	As-Cast Weight in Pounds (Kilogram)							
CSL 1-499 (1-226)		500-2499 (227-1134)	2500-9999 (1135-4537)	10000+ (4538+)				
CSL-1	1 Qualification							
CSL-2	1 Q	ualification	1 Qualification					
CSL-3	1 Qualification	1 Qualification	1 Qualification	1 Qualification				
CSL-4	Weights are no	t applicable for CSL 4. Each	n casting shall be indi	vidually qualified				

Table-2-Material Groups

Material Group	Description				
Group A	Carbon steels				
Group B	Low alloy steels				
Group C	Stainless steels (Other than duplex)				
Group D	Duplex stainless steels				
Group E	Corrosion-resistant alloy (CRA)				

Table-3-Casting Weld Repair Limitations

% Wall Thickness	% Surface Area	CSL	
50%	50%	CSL-1	
25%	25%	CSL-2	
20%	20%	CSL-3	
10%		CSL-4	
	10%	CSL-4	



Annexure-I to Certificate No TUV/9309/22-23/API 20A/0005 Job.No: 8120633187

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Table-4-Guideance for Qualification Examination/Testing Requirements.

CSL		Section References									
CSL	Visual	Inspection	Hardness	Surface	Volumetric NDE	Mechanical	Micro structure	Sacrificial Casting	Chemistry	Additional Testing	
CSL-1	4.5.2	4.5.3	4.5.4	-	-	4.5.6	<u>-</u>		4.5.8	4.5.9.3	
CSL-2	4.5.2	4.5.3	4.5.4	4.5.5.1 4.5.5.2		4.5.6	_		4.5.8	Group.D 4.5.9.3	
CSL-3	4.5.2	4.5.3	4.5.4	4.5.5.1 4.5.5.2	4.5.5.3	4.5.6	4.5.7		4.5.8	Group.D 4.5.9.3	
CSL-4	4.5.2	4.5.3	4.5.4	4.5.5.1 4.5.5.2	4.5.5.3	4.5.6	4.5.7	4.5.9.2	4.5.8	Group.D 4.5.9.3 Group.D	

Table 7—Limits of CSL Qualification Summary

Requirement	Reference(s)	CSL 1	CCL 2		
ASTM keel block	Figure 4, Figure 5	COLI	CSL 2	CSL 3	CSL-4
Equivalent round or integral test		X	X		
specimen	Figure 1, Figure 2, Figure 3	-		Х	
Sacrificial casting	4.5.9.2				
Change in material group	4.8.1	V			X
As-cast weight range class	4.8.2	^	X	X	X
Change in melt practice		-	X	X	X
Material specification/grade	4.8.3		<u> </u>	X	X
OTE: This table provides a matrix of	4.8.4	-			

NOTE: This table provides a matrix of requirements and should be used as a reference only, since it may not include all