



Project: -

Client: **M/s ULTIMATE ALLOYS PRIVATE LIMITED, COIMBATORE**

Office: **Coimbatore**

Client's Order Number: **Signed request for services with client**

Date: **02 September 2019**

Order Status: **In Complete**

Inspection Dates

First: **08 January 2018**

Final: **30 August 2019**

This certificate is issued to **M/s M/s ULTIMATE ALLOYS PRIVATE LIMITED, Coimbatore** to certify that the undersigned Surveyor to Lloyd's Register Asia did attend at their request their works at Coimbatore on the aforementioned date for the purpose of examining for API 20A Foundry Qualification for the below Casting Qualification Limits

**Sample Casting detail:**

Description: 4" 900# FLANGED GLOBE VALVE BODY & 12" 2500# PLUG BUTT WELD END VALVE BODY  
Drawing No: 121688 Rev.1 and AL2250 Rev. 0  
Weight: 162 Kgs (357 Pounds) and 1680 Kgs (3703 Pounds)  
Material Specification: Low Alloy Steel, Group-B, ASTM A217:2014 Gr.WC9, Sand Castings  
CSL Level: CSL-3

**Range of qualification\*:**

**Material Group:** Group B – Low Alloy Steels with qualification limits as per API 20A clause-4.3.3

CSL Level	Weight range qualified (in Pounds)	Weight range qualified (in Kgs)
CSL1	All	All
CSL2	All	All
CSL3	1 - 499 & 2500 – 9,999	0.45 - 226.34 & 1134 – 4535.47

\*Refer Table 1,2&3 Matrix of API 20A for detailed qualification limits.

**Scope of inspection:**

- (1) Witnessed pouring of sample castings, qualification test coupon and identification of test bars as per specification and API 20A requirements.
- (2) Witnessed chemical analysis conformance to relevant specification requirements.
- (3) Witnessed Heat treatment furnace loading & Unloading. Reviewed heat treatment records to the requirement of material specification and API 20A requirements.
- (4) Witnessed tensile and impact test of selected samples to the requirement of A370 requirements.

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- (5) Witnessed hardness survey on castings to the relevant standard and API 20A requirements.
- (6) Reviewed micro structure examination reports as per relevant ASTM specification and API 20A requirements.
- (7) Reviewed NDE procedures to the requirement of relevant standard and API 20A requirements.
- (8) Reviewed WPS,PQR & WPQ to the requirement of ASME SEC IX .
- (9) Reviewed repair welding procedure, welding consumables storage and handling procedure to the requirement of relevant standard requirements.
- (10) Witnessed magnetic particle testing of sample castings to the relevant standard and API 20A requirements.
- (11) Reviewed radiographic films and reports to the relevant standard and API 20A requirements.
- (12) Carried out final visual examination of sample castings to the requirement of MSSP 55 and API 20A requirements.
- (13) Carried out dimensional inspection of unmachined castings to the drawing and relevant specification requirements.
- (14) Verified marking details as per API 20A requirements.
- (15) Reviewed calibration records of testing machine, furnace, thermocouple, recorder and measuring instruments to the requirement of relevant standard and API 20A requirements.
- (16) Reviewed qualification record & Manufacturing procedure specification (MPS) as per API 20A and relevant specification requirements.

**Identification:**

For the purpose of identification, Surveyor's low stress dotted personal stamp " *MS*

"hard punched on each casting in un-machined condition next to the heat number.

**Conclusion:**

Based on the evaluation of the QTC & Sample Casting for above scope of inspection defined by the manufacturer, the results found in order to the requirements of **API-20A SECOND EDITION, August 2017**.

Prior to the Production Castings, the casting manufacturer has to obtain approval for Sample Casting from the purchaser. Requalification is applicable as per API 20A requirements if change in limits of CSL Qualification specified in the standard.

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D S SELVAN  
For self & SURESH KUMAR M  
Surveyor to Lloyd's Register Asia

a member of the Lloyd's Register group.