



# JAI AUTO PVT. LIMITED

VILLAGE KADDON. G.T ROAD DORAHA LUDHIANA (P.B.)INDIA

E-Mail: info@jaiauto.in

INVOICE NO.: (J2223-108)

# Works Test Certificate

EN 10204/3.1 B

DATE: 01-09-2022

Forging specification  
ASME SA 105-2019  
ASTM A105-2021

Steel Supplier  
PGIPL

Mill Heat No.  
A2/35

JAPL HEAT NO: 1844

35Nos.

Quantity

Machining STD  
ANSI B16.5- 2013  
ASME B16.5- 2020

## TEST RESULTS

### CHEMICAL COMPOSITION

### MECHANICAL PROPERTIES

| Element %              | Specified Composition | Actual   |           | PROPERTIES  | SPECIFIED  | OBTAINED | Specified carbon as per Purchase Order<br>0.25max.   |
|------------------------|-----------------------|----------|-----------|---|------------|----------|--|
|                        |                       | JAPL LAB | MILL T.C. |   |            |          |  |
| Carbon                 | 0.35max               | 0.19     | 0.21      | Yield Strength (mpa)  | 250.00min. | 335.32   | Serrated face as per MSS-SP-6 With in limits of 125-250AARH                                  |
| Manganese              | 0.60-1.35             | 1.12     | 1.17      | Tensile Strength (mpa)  | 485.00min. | 528.68   | CARBON EQUIVALENT (CE)<br>CE = C + $\frac{Mn}{6}$ + $\frac{Cr+Mo+V}{5}$ + $\frac{Ni+Cu}{15}$ |
| Silicon                | 0.10-0.35             | 0.20     | 0.26      | %Elongation in 50mm / 4D  | 22.00min.  | 31.12    | MARKING AS PER MSS-SP-25-2013  |
| Sulphur                | 0.040max              | 0.010    | 0.006     | Hardness HBW  | 187max.    | 161-169  | 4-300 SA/A105 1844 B16.5 JAPL INDIA  |
| Phosphorous            | 0.035max              | 0.015    | 0.021     | % Reduction of Area   | 30.00min.  | 63.75    |  |
| Chromium               | 0.30max               | 0.074    | 0.09      | Remarks:- We hereby certify that the product satisfies the requirement of ASTM A 105 and material described here in has been tested in accordance with the applicable specifications referred above and meets the requirements as per EN10204/3.1B & NACE MRO-175 & ISO 15156. Product does not come in contact with mercury and lead during the manufacturing process. No weld repair was performed and all products are free of weld repair |            |          |  |
| Nickel                 | 0.40max               | 0.020    | 0.02      |   |            |          |  |
| Copper                 | 0.40max               | 0.015    | 0.01      |   |            |          |  |
| Molybdenum             | 0.12max               | 0.014    | 0.01      |   |            |          |  |
| Vanadium               | 0.08max               | 0.004    | 0.005     |   |            |          |  |
| Carbon Equivalent (CE) | 0.47max               | 0.397    | 0.428     |   |            |          |  |

Checked by:

Metallurgist

Certified by:

Quality Control Manager