

M M FORGINGS LIMITED

INCOMING METALLURGICAL INSPECTION REPORT

Lot No : 010000342342

SI.No :0

Mat.Des: RM - 42CRMO4, 75RCS REV.01

ICIN Number: 5000355917 Supp TC No 232203 Matl: MA003L01075.0R Supplier : JSW Steel Limited Heat Number: A5355 Supp TC date: 09:02:2018 8.820 PO Number: 4500012833 Size: 75.000 RCS Qty in MT: Batch 0000663154 Chemical composition in % Si P S Νi v Nb В Al Тi Co Fe Sb Pb Ca W Ta N2 H2 02 CE1 CE2 Mn $\operatorname{\mathtt{Cr}}$ Mo Cu Sn As Zr As per Spec. Min 0.3800 0.6000 0.1500 0.0200 0.9000 0.1500 0.0000 |Max|0.4500|0.9000|0.4000|0.0250|0.0350|0.2000|1.2000|0.3000|0.0300|0.3500| 0.0100 0.0100|0.0002|0.0020 0.0300 0.0100 |0.4120|0.7410|0.2660|0.0110|0.0230|0.0090|1.0900|0.2180|0.0020|0.01000.0080 Act. Analysis 0.0020 0.0010 |0.4020|0.7300|0.2630|0.0100|0.0240|0.0120|1.0800|0.2150|0.0020|0.01000.0010 0.0070 0.0020 |0.4030|0.7650|0.2670|0.0110|0.0240|0.0120|1.0900|0.2130|0.0020|0.01200.0020 0.0010 0.0070 |0.4040|0.7520|0.2680|0.0110|0.0220|0.0110|1.0900|0.2190|0.0020|0.0110|0.0010 0.0070 0.0020 **5** | 0.4100 | 0.7550 | 0.2740 | 0.0100 | 0.0220 | 0.0150 | 1.1000 | 0.2120 | 0.0020 | 0.0110 0.0020 0.0010 0.0050 As per Tcl 1 | 0.4080 | 0.7400 | 0.2500 | 0.0090 | 0.0230 | 0.0240 | 1.0900 | 0.2020 | 0.0020 | 0.0240 | 0.0010 0.0010 0.0010 0.0058|0.0002|0.0012 Shearabilit na Visual Forgeability Size & Surface satisfactory ok Mechanical properties UTS YS El RA Izod **Charpy Impact -1 Charpy Ipmact -2** RM**Upset** H/T T(°C) (Mpa) (Mpa) (%)(%)**Joule** Joule T(°C) Joule T(°C) Hardness Hardness **Hardness** Min As per Spec. 900.00 705.00 12.00 48.00 179 179 264 Max 1.095.00 285 285 327 **Tested Value** 1.019.74 774.76 26.00 59.04 229 285 229 As per TC 1.035.24 21.50 780.64 54.60 Micro Inclusion rating A В \mathbf{C} D Grain size Decarb Step Down **Bend Test** Macro (%) Thin/Thick Thin/Thick Thin/Thick Thin/Thick (ASTM) (mm) As per Spec. Min 5.00 Max 2.00 /1.00 2.00 /1.00 0.50 /0.50 1.00 /1.00 8.00 **Tested Value** 1.00 /0.50 1.00 /-1.00 /-7.00 C2S2R2 As Per TC Value 2.00 /1.00 0.50 /-- /-0.50 /-7.00 C2S2R2 Jominy 9.0 hardenability As per spec min 52.0 max 60.0 **Tested Value** 57.0 As per TC Value 57.7 Any other test specified :100% UT & MPI Tested at supplier end Our RM color code: Yellow / Light Green Remarks:Material accepted Heat code allocated: ZBO

Tested By :LAB2 Lot Cleared Date:27.02.2018 Head Metallurgy