

M M FORGINGS LIMITED

INCOMING METALLURGICAL INSPECTION REPORT

Lot No : 010000322170

SI.No:0

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

ICIN Number: 5000333064 Supp TC No 206383 Matl: MA003L01075.0R Supplier : JSW Steel Limited Heat Number: E69596 Supp TC date: 14:09:2017 15.330 PO Number: 4500012059 Size: 75.000 RCS Qty in MT : Batch 0000625661 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 Zr As 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 0.0100|0.0002|0.0020 0.0300 |0.4180|0.7660|0.2470|0.0100|0.0250|0.0050|1.0900|0.2060|0.0020|0.0170Act. Analysis 0.0020 0.0050 |0.4160|0.7640|0.2500|0.0100|0.0250|0.0100|1.0800|0.2000|0.0020|0.01600.0050 0.0020 0.0050 |0.4120|0.7690|0.2470|0.0130|0.0240|0.0050|1.0800|0.2150|0.0020|0.01500.0020 |0.4140|0.7600|0.2350|0.0090|0.0250|0.0050|1.0700|0.2070|0.0020|0.01400.0050 0.0020 5 | 0.4290 | 0.7700 | 0.2450 | 0.0090 | 0.0260 | 0.0050 | 1.0800 | 0.2090 | 0.0020 | 0.0140 0.0050 0.0020As per Tcl 1 | 0.4160 | 0.7500 | 0.2480 | 0.0100 | 0.0240 | 0.0250 | 1.0900 | 0.2050 | 0.0020 | 0.0200 0.0050 0.0010 0.0020 0.0046 0.0001 0.0011 Shearabilit NA Visual Forgeability OK Size & Surface satisfactory Mechanical properties UTS YS El RA Izod **Charpy Impact -1 Charpy Ipmact -2** RMH/T Upset 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** 1.009.74 809.79 26.00 59.04 285 212 229 As per TC 1.022.14 817.45 18.00 53.10 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 /1.00 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** 53.0 As per TC Value 54.7

Any other test specified :100% UT & MPI Tested at supplier end

Our RM color code: Yellow / Light Green

Remarks:Material accepted

Heat code allocated: XPO

Tested By :LAB2 Lot Cleared Date: 27.09.2017

Head Metallurgy