

JYOTI HEAT TREATMENT PVT LTD.

Plot No.: J-199 , M.I.D.C, Bhosari , Pune-26,
Phone: 9823143199/7798078786 | Email: sales@jyotiht.com

TEST REPORT

General Information

Certificate No: JHTPL/2.707/2025	Date: 2025-03-20
Customer: Mangla Industries.	Part Name: Driven shaft
Material: 16MnCr5	Prepared By: Mahesh Nighojkar
Remarks: Case depth on OD found slightly lower side & ferrite structure observed in core. Driven shaft 5001449-001 is cut for micro	

Parts

Part No	Quantity
5001449-001	680
5001413-001	533
931585-S	256
6051129-001	105
6024065-012	97

Parameters

Parameter	Specified	Actual
Heat Treatment	CHT	CHT
Surface Hardness	60-64 HRC	61-62 HRC
Core hardness @ RCD	25-45 HRC	35 HRC
Core hardness @ OD	25-45 HRC	29 HRC
Case depth @ PCD	0.65 - 0.85 mm(cut off 550 HV1)	0.78 mm
Case depth @ OD	0.65 - 0.85 mm(cut off 550 HV1)	0.62 mm
Thread Hardness	450 HV1 Max at CREST	381 - 450 HV1
Microstructure	Case: Tempered martensite RA 15%, Carbides not acceptable. Core: Low Carbon Tempered Martensite.	Case: RA <08%, Fine Tempered Martensite. Free from Carbides. Core: Low carbon tempered Martensite. Ferrite observed.

Hardness Traverse

Location	Distance (mm)	Hardness (HV1)	Hardness (HRC)
At PCD	0.1	765	0
At PCD	0.2	758	0
At PCD	0.3	754	0
At PCD	0.4	712	0
At PCD	0.5	661	0
At PCD	0.6	624	0
At PCD	0.7	573	0
At PCD	0.8	545	0
At PCD	0.9	0	0
At OD	0.1	758	0
At OD	0.2	747	0
At OD	0.3	715	0
At OD	0.4	661	0
At OD	0.5	608	0
At OD	0.6	568	0
At OD	0.7	500	0
At OD	0.8	0	0
At OD	0.9	0	0

Surface Hardness Samples

Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
61 HRC	62 HRC	61 HRC	62 HRC	61 HRC