

**JYOTI HEAT TREATMENT PVT LTD.**

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Doc No: JHTPL/QA/F-04

Rev No: 00/--

Rev Date: 01/01/2023

**TEST CERTIFICATE**

<b>Test certificate no:</b>	<b>JHTPL/3.217/2025</b>	<b>Customer Name:</b>	<b>KAP Engineering</b>
<b>Part no.:</b>	<b>JL511205</b>	<b>Part name:</b>	<b>Rocker Arm Shaft</b>
<b>Date:</b>	<b>2025-06-18</b>	<b>Material:</b>	<b>16MnCr5</b>
<b>ID No.:</b>	<b>-</b>	<b>Qty.:</b>	<b>10000</b>

**Parameters**

<b>Parameter</b>	<b>Specified</b>	<b>Actual</b>
Heat Treatment	CHT	CHT
Surface Hardness	79-84 HRA	80-82 HRA
Core hardness	29-43 HRC	42 HRC
Case depth @ OD	0.30-0.60 mm (cut off 550 HV1)	0.60 mm
Microstructure	Case: Tempered marten site. Carbides in any form are not acceptable.	Case: RA<08%, Fine Tempered Martensite.
Microstructure	Core: Low carbon tempered Martensite.	Core: Low carbon tempered Martensite.

**Hardness Traverse:**

<b>Distance(mm)</b>	<b>Hardness (HV1)</b>	<b>Distance(mm)</b>	<b>Hardness (HV1)</b>
0.1	743	0.5	590
0.2	720	0.6	551
0.3	690	0.7	534
0.4	654	-	-

**Surface Hardness of 05 Samples:**

<b>Sample Nos.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Surface Hardness in HRC</b>	81	82	81	81	82

Remarks: Accepted

Input Shaft Z - 19 BMM11C00560 is cut for micro.

Prepared By: Mahesh Pawar