



QM-C-7.1/CASTING/0001/K
Inspection Plan & Check Sheet for Adapter Class 'K' (6 1/2" X 9")

Item : Adapter (6 1/2" X 9")
Specification/STR No: AB/RB-41-2016 (latest)
Amd. :-
Drg. No.& Alt. : WD-15020-S-3,Alt.3

1	NAME OF MANUFACTURER	
2	DATE OF OFFER	
3	RDSO FILE NO.	
4	DESCRIPTION OF MATERIAL	
5	DRAWING & ALT. NO.	
6	SPECIFICATION & GRADE	
7	PURCHASE ORDER NO.	
8	TOTAL QUANTITY ORDERED	
9	QUANTITY EARLIER PASSED	
10	QUANTITY NOW OFFERED	
11	CONSIGNEE	
12	DELIVERY PERIOD	

1	DATE OF INSPECTION	
2	QTY. ACCEPTED	
3	QTY. REJECTED	
4	BALANCE ORDER	

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Signature of RDSO Inspector



(A)- METALLURGICAL REQUIREMENTS FOR ADAPTER CLASS 'K' (6 1/2" X 9")

Specified Values

Specification NO./Grade	Chemical Composition,%	Mechanical Properties					
		UTS, Min. Kgf/mm ²	YS, Min Kgf/mm ²	EL (Min.) 2ln, %	RA% Min.	Base Metal Hardness (BHN)	Micro/Heat treatment
ASTM A 536 Gr.80-55-06(Ductile Iron)	Not specified in ASTM A-536 however, the chemical composition of iron shall be such as to produce the specified mechanical properties	56.3	38.67	6	-	187-255 BHN, Casting having hardened crown or hardened crown and thrust shoulders	Microstructure of ductile cast iron shall consist substantially graphite nodules (minimum 80%)
						217-255 BHN, Casting not having any hardened surfaces or with hardened thrust shoulders only	
ASTM A 148 Gr.80-40 (Steel Casting)	S-0.06 max. P-0.05 max.	56.3	28.15	18	30	179 -228	Full annealing, normalizing, normalizing & tempering or quenching & tempering
AARM-201 Gr. C	C - 0.32 max Mn- 1.85 max Si -1.5 max S - 0.04 max P - 0.04 max	63.3	42.18	22	45	179-228	Normalised & tempered or quenched & tempered

1. **Specification No. of the offered Adapter (6 1/2"X9") material** :

2.(A) **SAMPLES REQUIRED FOR DESTRUCTIVE TESTING DURING PURCHASE INSPECTION:**

- (i) One sample per 1000 (lot size) or part required for destructive testing of adapter.
- (ii) Integrated test lug or machined test piece from finished product may be tested for mechanical/chemical testing

2. (B) **CHEMICAL COMPOSITION (1 no.per heat)**

HEAT NO.	C%	Mn%	Si%	S%	P%	Mg%

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2. (C) MECHANICAL PROPERTIES (1 no.per heat)

HEAT NO.	UTS Kgf/mm ²	YS Kgf/mm ²	EL %	RA %	MICRO	HARDNESS BHN	Heat clearance date
					Nodularity & matrix Microstructure of ductile cast iron shall consist substantially graphite nodules (minimum 80%)		

(C)-I Dimension for Narrow Jaw Adapter Class 'K' (6 1/2" X 9") (WD-15020-S-3)

S No.	Sample size	Actual size										
1	<p>(a) Visual Inspection-10 % of lot, randomly selected, for casting quality (like cracks, inclusions shrinks, porosity, application of rust preventive coating etc.) and marking.</p> <p>(b) Rust-resistance coating as per Specification no. IS:2074 :10% of lots,randomly selectedshall be checked visually for uniform coating of the machined surface area of adapter to prevent rusting</p> <p>(c) Colour matching of the adapter with the CTRB's outer cup: 10% of lot shall be checked-The adapter should be placed on the coloured CTRB outer ring & hand pressure applied on the top of adapter. Then the adapter is removed from outer cup and the adapter inner bore touching area with the CTRB outer cup to be inspected. At least 80% of the area must be coloured matched.</p>											
2	<p>Gauging:</p> <table style="margin-left: 20px;"> <tr> <td>Lot size</td> <td>Sample size</td> </tr> <tr> <td>281-500</td> <td>50</td> </tr> <tr> <td>501-1200</td> <td>80</td> </tr> <tr> <td>1201-3200</td> <td>125</td> </tr> <tr> <td>3201-10000</td> <td>200</td> </tr> </table>	Lot size	Sample size	281-500	50	501-1200	80	1201-3200	125	3201-10000	200	
Lot size	Sample size											
281-500	50											
501-1200	80											
1201-3200	125											
3201-10000	200											
3	Hardness - All hardness values to be checked on 1 % of lot received for inspection.											

S No	Parameters Gauged/Checked	Acceptance Std. (mm unless specified otherwise)	Gauge No./gauge Suffix & Name(As per AAR M-924)	Observation									
Machined Surfaces													
1	Centrality	Must be equal within 1.6 mm after bore is machined	AM-45109-7 (Centrality gauge)										
2	Equal Thickness	Within 0.5 mm after bore is machined	AM-45117-7 (Equal thickness gauge)										

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3	Bearing Thrust Shoulder Thickness	16.7 ^{+0.0/} - 2.0	AM-45096-7 (Bearing thrust shoulder thickness gauge)																
4	Bore Diameter	24.993 R ^{+0.127/} -0.0	AM-45092-7 (Bore diameter-Chordal Gauge)																
5	Concentricity & Taper (Use gauge on clear and unpainted surfaces)	The max reading on any of the four indicators must not exceed 0.038 mm (Top center only).	AM-45094 - 7 (Concentricity & taper gauge)																
6	Bearing Thrust Shoulder Depth	7.645 ^{+0.0/} - 0.508	AM-45095 - 7 (Bearing thrust shoulder depth gauge)																
7	Bearing Thrust Shoulder Spacing and Relief	163.52 ^{+1.5/} - 0.0	AM-45097 - 7 (Bearing thrust shoulder spacing & relief gauge)																
8	Bearing Thrust Shoulder Chamfer Angle	35° ±2°	AM-45104 (Bearing thrust shoulder chamfer angle gauge)																
9	Bearing Thrust Shoulder Chamfer Location	4.76	AM-45105 - 7 (Bearing thrust shoulder chamfer location gauge)																
10	Heat indicator hole diameter and depth (When specified by the customer)	N. A	AM-45093 – 7 (Heat indicator hole diameter and depth gauge)																
11	Snap Ring Groove	N. A	AM-45101 (Snap ring groove gauge)																
12	Machined Surface Finish	3.2 µm (N8)	surface roughness measuring instruments or Comparator																
UNMACHINED SURFACES																			
13	Overall Width	253.21 ^{+0.0/} -3.18	AM-45084 -7 (Overallwidthgauge)																
14	Body Width	194.46 ^{+0.80/} - 2.38	AM-45091 -7 (Bodywidthgauge)																
15	Side/Outer ThrustLugs Spacing	96.82 ^{+4/} - 0	AM-45085 -7 (Outerthrustlugspacing gauge)																
16	Side/Outer Thrust Lugs Height	29.375 ^{+1.19/} -1.99	AM-45086-7 (OuterThrustLugHeight Gauge)																
17	Crown/Top Thrust Lugs Spacing	155.5 ^{+ 2.00/} - 0.0																	
18	Crown/Top Thrust Lugs Height	24																	
19	Combined Crown Radius	1524R ^{+0/} -508 R	AM-45110-7(Combined crownradius gauge)																
20	Pedestal Fit		AM – 45102 – 7 (Pedestal fit gauge)																

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21	Marking	As per Drg. No. WD-15020-S-3 latest i.e (Year of Cast, Journal size, Name of manufacturer, Material Code, Heat Number)																	
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22	Surface Hardening:			
	Location	Hardness	Observed value	
	Crown	350- 450 BHN, 1.5 mm – 5.0 mm in depth		
Thrust Shoulders	350- 450 BHN, 0.76 – 3.8 mm in depth			

(C)- II Packing of Adapter Class ‘K’ (6 1/2” X 9”): procedure

STEP-01



TAKE WOODEN CRATE
SIZE: 34” X 34”X 21” (Outside)

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STEP-02



PUT CORRUGATED SHEET (34" X 18")
&
PLASTIC BAG (40"X40")

STEP-03



APPLY RUST-RESISTANCE COATING AS PER SPECIFICATION NO. IS:2074 FOR COATING THE MACHINED SURFACE AREA OF ADAPTER TO PREVENT RUSTING

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STEP-04



MAKE 3 COLUMN IN 4 LAYER



PUT BUBBLE SHEET AS SEPARATOR



MAKE ANOTHER 3 COLUMN AS ABOVE



PUT BUBBLE SHEET AS SEPARATOR



MAKE ANOTHER 3 COLUMN AS ABOVE



TIE UP THE PLASTIC BAG

MAKE TOTAL 9 COLUMN (3x3) WITH 4 LAYERS AS PER ABOVE FIGURE
(TOTAL 36 PCS IN EACH CRATE)

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STEP-05



PUT & NAIL THE TOP COVER

STEP-06



STRAP WITH Polypropylene / STEEL
TAPE & PUT THE LABEL

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