



QM-C-7.1/COUPLER/0005
Inspection Plan(Check Sheet)

Item: High Tensile Tight Lock Centre Buffer Coupler with AAR 'H' Type Head for fitment of BG Passenger coaches
Specn. : C-K 009 Rev 02 of Oct'08
Amd.: 1 of Dec'10
Drg. No. & Alt.: SK-K0036 Alt. Nil

1.	Name of Manufacturer	
2.	Description of material	
3.	Purchase Order	
4.	Total Quantity ordered	
5.	Quantity Earlier passed	
6.	Quantity now offered	
7.	Consignee	
8.	D.P.	

1.	Date of Inspection	
2.	Qty. Accepted	
3.	Qty. Rejected	
4.	Balance order	

- 1.0 Pre-Inspection checks
- 1.1 Sample Plan: Single (10%) / Double
(Specify reason in case of double sampling) -----
- 1.2 Ensure availability of valid Internal Test reports YES NO
- 1.3 Ensure calibration status of equipment, test benches, Gauges and instruments to be used in inspection. YES NO
- 1.4 Availability of adequate Air pressure on test bench. YES NO

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- 2.0 Audit checks of the manufacturing procedure / IQA system.
- 1.1 Ensure that the QAP of the firm is approved and available.
- 1.2 Details of Audit checks on record of Internal Quality Assurance System.
- 1.3 (This shall include all the manufacturing activities, testing, inspection of bought-out items and castings).

SL. NO.	Reference to QAP check sheets	Description of manufacturing operation	Deficiencies observed
1			
2			
3			
4			

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“H” TYPE TIGHT LOCK CENTRE BUFFER COUPLERS

Ref: QAP Document No: TLC/SP/3.29, Issue Date :19.7.2004 Rev.No.Nil/Rev.Date : Nil Approved by
DG/RDSO/ vide letter no. MC/BLB/CBC Dt.18.8.2004

Coupler Head & Other Casting:-

A. FTIL QAD will run audit verification according to FTIL specification on the castings once in 3 heat.

SL. No.		Sample Size	Responsibility
1	Chemical composition of the casting will be confirmed by verifying the suppliers test reports.	Each Heat	FTIL
2	Mechanical properties are verified by comparing the test reports furnished by the supplier with FTIL specification	Each Heat	FTIL
3	Audit check will be done to verify chemical, Mechanical properties by testing the test bars furnished by supplier at a FTIL approved lab.	Each Heat	FTIL
4	Hardness of the casting will be determined by Brinell Hardness tester in accordance with ASTM A370. The surface shall be ground to remove decarburisation, scale and any surface imperfection prior to hardness checking. Please refer sketch on page no-6/1 for location of testing -4 places (Body 2 Knuckle1, Lock 1)	100% by Vendor	On receipt verified at FTIL
5	Magnetic particle testing shall be carried out on 100% of the surface of the coupler body, knuckle and lock.	100% by Vendor	FTIL (Sampling Plan)
6	100% by casting vendor. FTIL verification Coupler Head castings shall be subjected to radiographic examination as per table E of the sampling plan attached (Refer Page no.-7/13).This will be radiographed. The reference films will be compared for grading the defects into the various levels. No casting having defects above class III in critical area will be accepted.	100% by Vendor	FTIL (Sampling Plan)
7	100% by Casting vendor FTIL verification Jominy test will be carried out on the cast test bars for initial 10 consecutive heats. Based on the satisfactory results in the 10 heats, it will be checked once in a month thereafter. On unsatisfactory Jominy test results during monthly test, tests on every heat till 10 consecutive satisfactory tests will be carried out.	By Vendor	FTIL
8	Hardenability calculations : The ideal critical diameters shall be calculated for each heat and shall be reported in the test certificate provided for coupler body and knuckle.	100% Vendor	FTIL
9	Dimensional Inspection Performance Testing: TIGHT LOCK COUPLER AND DRAFT GEAR ASSEMBLY The testing of tight lock couplers will be carried out as per the test specification no. DMTS-087-1 Rev.08 Refer page no. 7/1 to 7/12. This will be carried out on random sampling basis and records will be maintained. (5% or 5 per Lot)	100% Inspection By FTIL. Sampling plan for RDSO	FTIL RDSO

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**DOCUMENTS REQUIRED FOR INSPECTION OF
“H” TYPE TIGHT LOCK CENTRE BUFFER COUPLERS**

INTERNAL INSPECTION REPORT	
MATERIAL TEST CERTIFICATE FOR COUPLER HEAD	
MATERIAL TEST CERTIFICATE FOR KNUCKLE	
QUALITY ASSURANCE PLAN	

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PERFORMANCE REPORT

FTIL PART NO : D228587 – 100	DATE :
DESCRIPTION : Tight Lock Coupler Head	QUANTITY :
DRAWING NO : 228587F10	SAMPLE QTY. :
	H. No.=Heat No. N. No=Name plate No.

ASSLY. : TIGHT LOCK COUPLER AND DRAFT GEAR ASSY.

OBSERVED DIMENSION

SL. NO.	H.NO.																			
1(3.10)	COUPLER SUPPORT NAME PLATE NO																			
3.1.1	Two coupler heads complete are mounted																			
0	On the test bench(Ref # RBTR-0117)																			
3.4.1	Check the knuckle profile by using	Gauge Must																		
	The profile gauge(AAR:31000)Must seat	Be pass																		
3.4.2	Check the knuckle profile by using	Must not																		
	The jaw gap gauge(AAR No. 34100-1)	Pass																		
3.5.4	In the coupled condition under separating	The gap should																		
	Force, measure the distance between the	Not be																		
	Coupler faces with the help of gauge no.	more than																		
	RPBG-1148 and a vernier caliper to	3.50mm																		
	Measure additional gap if any.																			
3.6	Manual uncoupling:- Manual uncoupling	Lock is lifted																		
	By turning the Rotor	Coupler are																		
		Uncoupled																		
3.7	Operate the Uncoupling lever and drive the	Knuckle is																		
	Couplers apart	Open																		
3.2.10	Couplers are uncoupled knuckle in																			
	Coupled condition, try to lift the lock by																			
	Means of a lever, the built in anticreep.																			
	Knuckle Heat No.																			

Note : All Dimensions are in mm

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INSPECTION REPORT																	
FTIL PART NO : D 228587-100										DATE :							
DESCRIPTION : Tight lock coupler Head										QUANTITY :							
DRAWING NO : 228587F10 Rev.:05										SAMPLE QTY. :							
ASSLY. : TIGHT LOCK COUPLER AND DRAFT GEAR ASSLY.																	
OBSERVED DIMENSION																	
SL.NO																	
SPEC.NAME PLATE NO.																	
3.8	DIMENSION CHECK																
1	1125.0 (Ref.)																
2	1030.0 ± 5.0																
3	95.0 + 3.0/-0																
4	80.0-0.40/-0.60																
5	278.0±1.0																
7	220.0±1.0																
8	5.0±1.0																
9	135.0±3.0																
10	226.0±3.0																
11	226.0±3.0																
12	160±2.0																
13	355±3.0																
14	140±3.0																
15	300±3.0																
16	286±3.0																
17	208±3.0																
18	448±3.0																
19	Visual																
<p>Note : All Dimensions are in mm</p>																	

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INSPECTION REPORT

FTIL PART NO : 727816000
 DESCRIPTION : SUPPORT PLATE
 DRAWING NO : A37270280 Rev.:07

DATE :
 QUANTITY :
 SAMPLE QTY. :

OBSERVED DIMENSION

SL. NO	As per Spec.	Description																		
1	95±0.50	Centre distance																		
2	420±3.0	Width																		
3	190±1.50	Width																		
4	10+1.20/-1.0	Thickness																		
5	6.0+1.0/-0	Height																		
6	494±3.0	Width																		
7	445±1.20	Centre Distance																		
8	18±0.2	Hole Diameter																		
9	Visual	No sharp corner & Burr																		
10	Painting	Black Colour																		
11	Material	Fe 490 to IS 8500																		

Note : All Dimensions are in mm

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INSPECTION REPORT

FTIL PART NO : 727109000	DATE :
DESCRIPTION : MANUAL UNCOUPLING DEVICE	QUANTITY :
DRAWING NO : A2 727 Rev.:04	SAMPLE QTY. :

SL. NO	As per Specification	Description (N.NO.)																		
1	50±0.30	Centre distance																		
2	13±0.30	Hole Diameter																		
3	Visual	No. Sharp corner & Burr																		
4	Painting	Black Colour																		
5	Material	St. 5/HTV to IS:961																		

Note : All Dimensions are in mm.

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DRAFT GEAR SPRING STACK PRE LOAD REPORT																				
FTIL PART NO : 727103000										DATE :										
DESCRIPTION : DRAFT GEAR COMPLETE										QUANTITY :										
DRAWING NO :										SAMPLE QTY. :										
ASSY : TIGHT LOCK COUPLER AND DRAFT GEAR ASSY																				
OBSERVED DIMENSION																				
SL. NO	As per Specification																			
7.1.1	Preload at 510+0/-5mm																			
	Should be 28 KN TO 32 KN																			
<p>Note : All Dimensions are in mm.</p>																				

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UIC LINKAGE SPRING STACK PRE LOAD REPORT																			
FTIL PART NO :										DATE :									
DESCRIPTION : UIC LINKAGE										QUANTITY :									
DRAWING NO :										SAMPLE QTY. :									
ASSY : TIGHT LOCK COUPLER AND DRAFT GEAR ASSY																			
OBSERVED DIMENSION																			
SL. NO	As per Specification																		
SPEC NO.	Name Plate No.																		
7.1.1	Preload at 116+0/-2mm																		
	Should be 25 KN TO 30 KN																		
Note : All Dimensions are in mm																			

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