



QM-C-7.1/Rubber/0007

Inspection Plan(Check Sheet)

Item: Upper & Lower Rubber Washer
Specn. : R-64/98, Rev.2 of Dec'05
Amd.:
Drg. No. & Alt.:

1. Firm's name :
2. Date (period) of inspection.
3. Contract details :
 - a. Contract no. and date.
 - b. Order placing authority.
 - c. Specification no.
(as mentioned in contract)
 - d. Drawing no.
(as mentioned in contract).
4. Quantity on order
5. Quantity offered for inspection
on date.
6. Consignee.

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Inspecting official of RDSO



SUMMARY OF RESULTS

LOT SIZE – 500 Nos.

SN	Parameters	Specified value	Observation	
			Max.	Min.
7.1	Visual check	Laminations, Blow holes, Cracks etc.		
7.2	Dimensional check	By go-Nogo gauges		
7.3	Physical properties before ageing			
	i) Tensile Strength	Min 12 N/mm ²		
	ii) Elongation at Break	Min 300 %		
	iii) Compression set	Max 30 %		
	iv) Hardness	70 Shore A		
	v) Ash content	5% Max		
	vi) Physical properties after ageing at 100+1/-1deg.C for 72+0/-2 hrs.			
	Change in properties			
	a) Hardness	+7/-0 Shore A		
	b) Tensile Strength	+10%/-25%		
	c) Elongation at Break	+10%/-30%		
7.4	i) Compressive load deflection for BG coaches for Lower Rubber Washer			
	a) At 2 ton	5±15		
	b) At 3 ton	7±15		
	c) At 4 ton	9±15		
	Measurement after 1 hr of test variation in thickness	Not more than 2%		
	ii) Compressive load deflection for BG coaches for Upper Rubber Washer			
	a) At 2 ton	6±15		
	b) At 3 ton	9±15		
	c) At 4 ton	11±15		
	Measurement after 1 hr of test variation in thickness	Not more than 2%		

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7.5	ii) Compressive load deflection for MG coaches for Upper & Lower Rubber Washer & Bolster Washer for BG & MG Coaches*		1	2	3	4	5
	Load in tons	Specified deflection in mm					

* The sample shall satisfy the load deflection requirements as stipulated in the relevant drawing.

* For visual & dimensional checks, for MG coaches for Upper & Lower Rubber Washer & Bolster Rubber Washer for BG & MG Coaches, relevant drawing shall be referred and a separate check sheet shall be attached.

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7.6 Visual check Lower / Upper Rubber Washer:

Specified Sample size - 1%

Actual Sample Size –

Pad No.	1	2	3	4	5
Visual check					

7.7 Dimensional check for Lower rubber washer:

Specified Sample size - 1%

Actual Sample Size –

Washer No: (in mm)	1	2	3	4	5
OD 251-253					
ID 110-112					
Thickness 34-36					

7.8 Dimensional check for Upper rubber washer:

Specified Sample size - 1%

Actual Sample Size –

Washer No: (in mm)	1	2	3	4	5
OD 259-261					
ID 167-169					
Thickness 34- 36					

7.9 Physical properties before ageing:

Specified Sample size - 1 pad per 500 pads

Actual Sample Size -

A. Tensile Strength:

Parameters	Specified value (in mm)	1	2	3
Thickness	1.8 –2.2			
Width	6.0 – 6.4			
Area sq. mm	10.8 –14.04			
Load at break kg	--			
Tensile strengths	Min 12 N/mm ²			
Hardness (Shore A)	70 +7 / -0			

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B. Elongation at break:

Parameters	Specified value (in mm)	1	2	3
Original length	25			
Length at break	100 (Min.)			
Elongation	300% (Min.)			

C. Compression set:

Parameters	Specified value (in mm)	1	2	3
Original thickness	12 –13			
Thickness after aging				
Thickness of spacers	9.39 –9.41			
Compression set	30% Max			

%age Change in Physical properties after ageing:

Parameters	Specified value	1	2	3
a) Tensile Strength	+10 - 25			
b) Elongation at break	+10 -30			
c) Hardness	+7 -0			

Ash Content:

Parameters	Specified value	1	2	3
Ash Content	10% Max			

Swelling/Oil absorption:

Parameters	Specified value	1	2	3
Swelling/Oil absorption test	%age change in volume 35% Max			

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Compressive load deflection for Lower Rubber Washer for BG Coaches:

Load in tons	Specified deflection in mm	1	2	3	4	5
2	4.25 –5.75					
3	5.95 –8.05					
4	7.65 –10.35					

Compressive load deflection for Upper Rubber Washer for BG Coaches:

Load in tons	Specified deflection in mm	1	2	3	4	5
2	5.10 –6.9					
3	7.65 –10.35					
4	9.35 –12.65					

Compressive load deflection for MG coaches for Upper & Lower Rubber Washer & Bolster Washer for BG & MG Coaches*		1	2	3	4	5
Load in tons	Specified deflection in mm					

- The sample shall satisfy the load deflection requirements as stipulated in the relevant drawing.

* For visual & dimensional checks for MG coaches for Upper & Lower Rubber Washer & Bolster Washer for BG & MG Coaches relevant drawing shall be referred and a separate sheet shall be attached.

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