



QM-C-8.1/Rubber/0020

Inspection Plan (Check Sheet)

Item : Improved Side Bearer for Locomotive
Specn : MP.0.49.00.17 Rev-01, August 2017
Drg. No : SKVL-608 (Alt-01)

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1. Firm's Name :

2. Date (Period) of Inspection :

3. Contract Details:

a. Contract no. and date :

b. Order placing authority :

c. Specification no. :

d. Drawing no. :

4. Quantity on Ordered

5. Quantity offered for inspection :
On date

6. Consignee :

7. Delivery Period :

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Summary of Results of Improved Side Bearer for Locomotives Bogies

Specification No. : MP.0.49.00.17

Lot Size-50 Nos.

Actual Lot Size-

SN	Parameters	Specified Value	Observed Value	
			MAX.	MIN.
7.1	Visual check	Foreign materials, pin holes, cracks & trapped air bristles etc. & marking.		
7.2	Dimensional check	As per Drawings		
7.3	Physical Properties of Rubber Compound			
Before ageing	Tensile strength	240 kg/cm ² (Min)		
	Elongation at break	550% (Min)		
	Hardness Shore A	53-57		
	Ash Content	8 % Max		
	Specific Gravity	1.22 Max		
After Ageing (Ageing at 70±1°C for 72 +0/-2 hrs.)	Variation in Tensile strength	±15 %		
	Variation in Elongation @ break	+5/-15 %		
	Variation in Hardness (Shore A)	+4/-0 shore A		
7.4	Compression set	15 % Max		
7.5	Compressive load deflection test			
	Load(tonnes)	Deflection (mm)		
	At 7.5t	10.5 ± 1.05 mm		
	At 8.5t	11.8 ± 1.18 mm		
	At 11.0t	14.4 ± 1.44 mm		
	At 12.5t	16.0 ± 1.6 mm		
7.6	Shear load deflection test			
	Load (Tonnes)	Deflection (mm)		
	2.00 4.00	22 ± 04.4 mm 50 ± 10.0 mm		
7.7	Shear Bond Strength	35 kg/cm ² min.		
7.8	Metal plate inspection	No sharp edges & burrs		
7.9	Physical property of metal plates (as per test certificate)	As Per IS : 2062		

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7.1 Visual check

Specified sample size-02 nos

Actual sample size- nos.

Pad no.	1	2
Visual check		

7.2 Dimensional check

Specified sample size-02 nos

Actual sample size- nos.

Pad no.	1	2

7.3 Physical properties :

Specified sample size-02 Nos

Actual sample size- Nos.

A. Tensile Strength(Before Ageing)

Parameter	Specified Value	1			2		
		a	b	c	a	b	C
Thickness(mm)							
Width(mm)							
Area(mm ²)							
Load at break(kg)							
Tensile Strength	240 kg/cm ² Min.						
Mid Value							

A.1 Tensile Strength(after Ageing)

Parameter	Specified Value	1			2		
		a	b	c	a	b	C
Thickness(mm)							
Width(mm)							
Area(mm ²)							
Load at break(kg)							
Tensile Strength							
Mid Value							
% change in T.S.	±15 %						

B. Elongation at Break (Before Ageing)

Parameter	Specified Value	1			2		
		a	b	c	a	b	C
Bench length(mm)							
Length at break(mm)							
Elongation %	550% Min.						
Mid Value							

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B.1 Elongation at Break (after Ageing)

Parameter	Specified Value	1			2		
		a	b	c	a	b	c
Bench length(mm)							
Length at break(mm)							
Elongation %							
Mid Value							
% change in E@B	+5/-15 %						

C. Hardness

Parameter	Specified Value	1			2		
		a	b	c	a	b	C
Before ageing	53-57 shore A						
Mid Value							
After ageing							
Mid Value							
Change in Hardness	+4/-0						

D. Ash Content % (8.0 % Max)

Parameter	Specified Value	1	2
Ash Content	8.0 % Max.		

E. Specific gravity

Parameter	Specified Value	1	2
Specific gravity	1.22 Max.		

7.4 Compression set

Specified sample size-02 nos

Actual sample size- nos.

Parameter	Specified Value	1			2		
		a	b	c	a	b	C
Original thickness(mm)							
Final thickness(mm)							
Spacer thickness(mm)							
Compression set %	15% max						
Average value							

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7.5 Compressive load deflection test

Specified sample size-02 Nos

Actual sample size- Nos

Load in ton	Specified value	Deflection in mm	
		1	2
At 7.5t	10.5 ± 1.05 mm		
At 8.5t	11.8 ± 1.18 mm		
At 11.0t	14.4 ± 1.44 mm		
At 12.5t	16.0 ± 1.6 mm		
At 18.0t	21.0 ± 2.52 mm		

7.6 Shear load deflection test

Specified sample size-02 Nos

Actual sample size- Nos

Load in ton	Specified value	Deflection in mm	
		Set -01	
At 2.00t	22 ± 04.4 mm		
At 4.00t	50 ± 10.0 mm		

7.7 Shear bond strength -

Specified sample size-02 Nos

Actual sample size- Nos.

Parameter	Specified Value	1	2
Shear bond strength	35 kg/cm ²		

7.8 Metal plate inspection

Specified sample size-02 Nos

Actual sample size- Nos.

Parameter	Specified Value	1	2
Metal plate inspection	No sharp edges & burrs		

7.9 Physical property of metal plates (as per test certificate)

Specified sample size-02 Nos

Actual sample size- Nos.

Parameter	Specified Value	1	2
Physical property of metal plates	As Per IS : 2062		

Periodical test**Resistance to ozone test (quality retention ratting)**

Parameter	Specified Value	Date done on	Date due on
Resistance to ozone test	85 % min		

Low temperature test at -40deg. C for 3 minutes

Parameter	Specified Value	Date done on	Date due on
Low temperature test	No brittle and no crack		

Fatigue test (1.2 millions cycle)

Parameter	Specified Value	Date done on	Date due on
Fatigue test	Permanent set 4.0 mm Max.		

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