Hindustan Composites Limited

Material Data Sheet

Non -Asbestos based Organic brake pad for LHB type coaches equipped with disc brake pad of Indian Railways system to RDSO Specification .No. RDSO/ 2013/ CG-01 Latest rev

Compo range of Non – Asbestos Composites Disc Brake Pad it is rigid molded Hot Curing based process product and having short filaments of Synthetic man made mineral fibers, Ceramic fibers and Blend with Fibers used Highly thermally stable "Novalak" Phenolic Powder Resin as a binder and fused in a matrix which contribute the strength, performance in terms of Coefficient of Friction/ Wear properties stable up to 400°C suitable for use high Friction type Disc Brake System for High speed Passenger application.

Application: - Passenger Applications.

Technical Data: -
Friction for Design Purpose – 0.35 (dry/wet)

Recommended operating range:

Maximum Temperature:	- 400°C
Maximum Continuous Operating Temperature:	- 300°C
Maximum brake block force	- 4.3 ton

Recommended mating surface

Recommended mating surface:	- Cast iron Disc
Brinell Hardness of mating surface:	- 175 minimum
Machining data of mating surface:	- Carbide tipped tools generally recommended for use Facing operation of Disc.

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Physical & Chemical Properties

Sr. No.	Properties	Unit	Specification
1	Density (Gm /Cm3)	Gm /Cm3	2.0 ± 0.10
2	Hardness, Rockwell "R" scale	HRR	95 ± 10
3	Compression Modulus (N/mm2)	N/mm²	3000 (max)
4	Acetone extraction %	%	3.0 (max)
5	Ash content %	%	63 ± 3 %
6	Cross breaking strength (Kg/Cm2).	Kg/Cm2	180 (min)
7	Flammability (min)		
	1.Smoke first given off		a) Time :– After 3 Minutes (min)
			b) Temp : - after 400ºC (min)
	2. Specimen Ignition occurred.		a) Time :– After 6 Minutes (min)
			b) Temp. :- 650 ºC (max.)
	3. Specimen Continuous to burn after removal of sources of Heat		a)Time :– 5 minutes (max)
	Temp. of the steel Plate specimen ceased to burn		b) Temp. : - After 400ºC (min)
8	Thermal conductivity at 55ºc (W/mk). ASTM E-1530 (tested at outside Laboratories)		
	Thermal conductivity at 55ºc	W/mk	0.40 min
9	Water absorption. As per STD EN ISO 62:2008 (E) in clause No.5.2 (24 Hours)	%	5.0 Max

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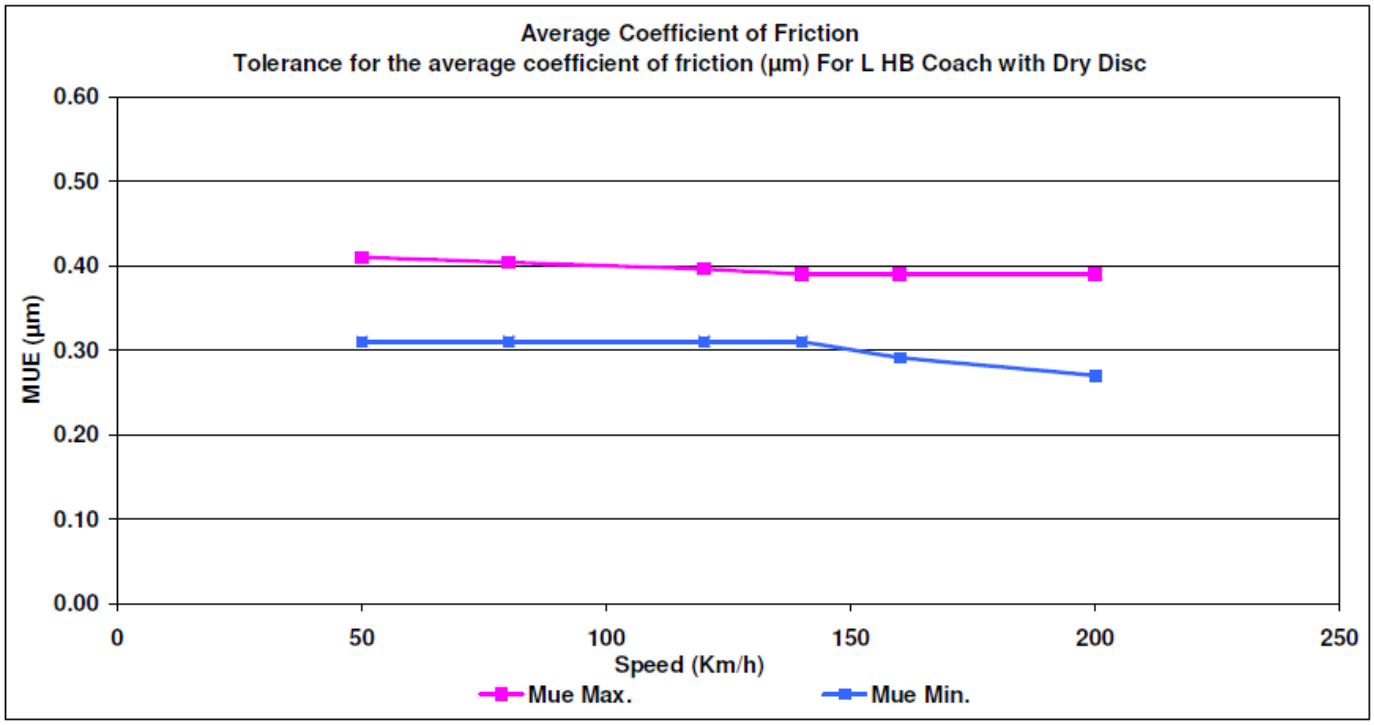
RDSO Band For MUE Values



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Technical data of Indian Railways L-HB Coaches

Sr. No.	Item	Remarks
1	Max Operating Speed (KMPH)	160
2	Max. Deceleration (m/s2)	1.3
3	Type of brake system used	Disc Brake system
4	Max. Axle Load (ton)	16.25
5	Number of Axle per Coach	4
6	wheel dia (mm) new	915 +3/-0
	wheel dia (mm) Condemning	845
7	Type of Brake Disc Used (mm)	Ø640 X 110 mm
8	Mean Friction radius of brake disc (mm)	247
9	Material of brake disc used	Cast iron
10	Number of Brake disc per coach	8
11	Type of brake pad required	Non asbestos organic pad
12	No of Brake Pads per Holder	2 (1 LH + 1 RH)
13	Brake force on Block (KN) MAX	42.1 KN
14	No of Brake Pads Per Disc	4 (02 Sets)

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