



Reporte de Calidad para Bloque de Frenos

Brake Dynamometer Test Report

Link Control Program: VER2.7
Test Procedure: FMVSS121
Brake Type: fuwa4515-12t

Prepared for:



GL Test #: 110107

Mitti Corp
Brake Dynamometer Testing

Cust Ref: GLA226-110107

Test Description

PROFORMANCE TEST

Test Information

Test Requestor:	
Requested By:	
Test Procedure:	FMVSS121
Link Control Program:	VER2.7
Dynamometer:	3264
Fixture ID:	
Test Coordinator:	Hu
Test Technician:	chen
Date Started:	01/07/11
Date Completed:	01/10/11
Date Parts Received:	01-05-11
Datalog Version:	2.71

Dynamometer Information

Rolling Radius:	19.6 inch	497.8 mm
Required Wheel Load:	10000 lb	4536 Kg
Actual Wheel Load:	lb	Kg
Gross Axle Weight:	20000 lb	9072 Kg
Required Inertia:	829.6 slug·ft ²	1124.8 Kg·m ²
Actual Inertia:	826.9 slug·ft ²	1121.1 Kg·m ²
Air Chamber:	30-67-12	
Slack Adjuster:	30DR	

Brake Information

Brake Type:	fuwa4515-12t
Brake Size:	
Assy P/N:	
Pri/Lead/Inner Lining:	
Sec/Trail/Outer Lining:	
Drum/Rotor Type:	
Brake Orientation:	Left

Final Comments:

Title:

Date:

Signature:

Data applicable to the materials tested. Valid if signed by the test engineer. Report can be copied in full. Bilateral uncertainty of measurements 0.63% of FS. Coverage factor of 2. Confidence of 95%. Details available upon request.

Stop Num	Brake Speed kph	Rel. Speed kph	Stop Time sec	Avg Decel (torq) g	Min Torq. N*m	Avg Torq. (time) N*m	Max Torq. N*m	Min Press kg/cm ²	Avg Press (time) kg/cm ²	Max Press kg/cm ²	Min Stroke mm	Avg Stroke (time) mm	Max Stroke mm	Init Ling c	Final Ling c	Init Drum c	Final Drum c
350 F Burnish																	
1	64.4	0.9	6.14	0.31	6413	6892	7440	3.2	3.6	4.5	46.2	48.0	49.0	177	179	207	235
10	64.4	0.8	6.13	0.31	6440	6882	7424	3.5	4.1	5.4	49.3	50.7	52.1	177	180	209	248
20	64.4	0.8	6.10	0.31	6491	6874	7114	3.7	4.5	6.1	50.1	52.0	54.9	177	179	209	247
30	64.4	0.8	6.08	0.31	6448	6909	7400	3.2	4.4	6.2	48.5	51.7	54.8	177	179	208	235
40	64.4	0.8	6.04	0.31	6424	6930	7477	3.3	4.1	5.7	48.7	50.8	53.9	177	179	207	232
50	64.4	0.8	6.01	0.31	6422	6942	7477	3.0	3.9	5.4	47.5	49.9	52.0	177	179	204	230
60	64.4	0.9	6.01	0.31	6446	6944	7616	2.7	3.4	4.8	37.9	39.7	42.0	177	179	198	225
70	64.4	0.8	6.01	0.31	6455	6932	7544	2.6	3.3	4.5	37.4	39.0	40.4	177	179	196	224
80	64.4	0.9	6.01	0.31	6496	6926	7362	2.4	3.1	4.1	36.6	38.7	40.0	177	179	196	225
90	64.4	0.8	6.01	0.31	6415	6940	7490	2.3	3.0	4.1	36.0	38.1	39.5	177	179	195	225
100	64.4	0.8	6.12	0.31	6445	6936	7458	2.4	2.9	3.9	36.8	38.0	39.2	177	180	195	224
110	64.4	0.8	6.13	0.31	6478	6928	7514	2.3	2.8	3.8	36.4	37.6	38.8	177	178	194	224
120	64.4	0.9	6.11	0.31	6444	6941	7673	2.3	2.7	3.8	36.2	37.5	38.7	177	183	193	223
130	64.4	0.8	6.12	0.31	6432	6943	7539	2.4	2.8	3.8	36.3	37.3	38.6	177	198	191	219
140	64.4	0.8	6.10	0.31	6401	6943	7656	2.2	2.7	3.7	35.0	36.4	37.6	174	185	177	207
150	64.4	0.9	6.13	0.31	6396	6931	7566	2.4	2.8	3.7	36.5	37.6	38.9	177	192	194	222
160	64.4	0.9	6.13	0.31	6443	6935	7700	2.6	2.9	3.8	37.3	38.4	39.7	177	196	203	229
170	64.4	0.8	6.12	0.31	6397	6940	7577	2.3	2.8	3.7	35.7	37.0	38.4	177	278	191	220
180	64.4	0.8	6.12	0.31	6447	6942	7518	2.3	2.7	3.8	36.3	37.2	38.4	177	179	195	225
190	64.4	0.9	6.10	0.31	6398	6950	7652	2.2	2.7	3.5	35.9	37.0	38.3	177	179	193	224
200	64.4	0.8	6.11	0.31	6463	6939	7882	2.4	2.7	3.7	36.1	37.1	38.3	177	179	195	224

500 F Burnish																	
1	64.4	0.9	6.17	0.31	6519	6888	7292	3.1	3.5	4.0	39.2	40.6	41.8	260	263	285	348
10	64.4	0.8	6.12	0.31	6485	6935	7617	2.4	2.6	3.7	36.1	37.0	38.5	260	262	291	332
20	64.4	0.8	6.09	0.31	6523	6949	7677	2.1	2.3	3.3	34.1	35.2	36.7	260	262	291	328
30	64.4	0.8	6.08	0.31	6517	6951	7960	2.0	2.2	3.2	33.9	34.9	36.0	260	262	289	327
40	64.4	0.9	6.08	0.31	6524	6957	7687	1.9	2.2	3.0	33.7	34.5	35.7	260	266	285	327
50	64.4	0.9	6.08	0.31	6547	6956	7729	2.0	2.2	3.0	33.6	34.6	35.9	260	264	286	329
60	64.4	0.9	6.08	0.31	6543	6956	7734	2.0	2.2	3.0	33.7	34.7	35.6	260	263	285	329
70	64.4	0.8	6.09	0.31	6537	6953	7721	2.0	2.2	3.0	33.9	34.9	36.4	260	263	285	329
80	64.4	0.8	6.09	0.31	6536	6950	7730	1.9	2.2	3.0	33.9	35.0	36.5	260	263	285	329
90	64.4	0.9	6.09	0.31	6571	6958	7842	1.9	2.2	3.0	33.9	35.1	36.1	260	263	284	329
100	64.4	0.8	6.09	0.31	6561	6949	7819	2.0	2.2	3.0	33.7	35.0	36.6	260	263	285	330
110	64.4	0.9	6.09	0.31	6554	6944	7668	2.0	2.2	2.9	33.6	34.9	35.9	260	263	284	330
120	64.4	0.9	6.10	0.31	6576	6952	7769	2.0	2.2	3.0	33.7	35.0	36.1	260	263	284	329
130	64.4	0.9	6.09	0.31	6573	6946	7779	2.0	2.3	3.0	33.9	35.3	36.6	260	263	283	329
140	64.4	0.9	6.10	0.31	6571	6944	8031	2.0	2.3	3.0	34.1	35.4	36.5	260	263	282	327
150	64.4	0.8	6.09	0.31	6527	6952	7721	2.0	2.3	3.0	34.1	35.4	36.9	260	263	282	328
160	64.4	0.8	6.09	0.31	6582	6945	7998	2.1	2.3	3.0	34.2	35.6	36.7	260	263	282	328
170	64.4	0.8	6.08	0.31	6575	6944	7757	2.0	2.3	3.0	34.2	35.6	36.6	260	263	282	328
180	64.4	0.8	6.09	0.31	6562	6946	7823	2.1	2.3	3.0	34.3	35.8	37.2	260	263	282	327
190	64.4	0.8	6.11	0.31	6564	6946	7842	2.0	2.3	3.0	34.5	35.9	37.0	260	263	283	327
200	64.4	0.9	6.10	0.31	6577	6942	7714	2.1	2.3	3.1	35.0	36.3	37.3	260	263	282	326

Stop Num	Brake Speed kph	Rel. Speed kph	Stop Time sec	Avg Decel (torq) g	Min Torq. N*m	Avg Torq. N*m	Max Torq. N*m	Avg Press (time) kg/cm ²	Min Stroke mm	Avg Stroke (time) mm	Max Stroke mm	Min Req'd Retard Ratio	Ret Ratio Act	Ret Force N	Init Ling c	Final Ling c	Init Drum c	Final Drum c
<u>Brake Retardation</u>																		
1	80.5	0.8	20.8	0.11	2046	2490	3059	1.4	16.7	19.8	21.1	0.050	0.113	5002	80	119	86	205
2	80.5	0.8	12.8	0.18	3695	4042	4976	2.1	19.9	22.7	23.9	0.120	0.183	8120	80	92	80	146
3	80.5	0.9	9.5	0.25	5043	5494	6381	2.8	22.7	25.3	26.5	0.180	0.248	11036	80	89	78	145
4	80.5	0.8	7.6	0.31	6303	6902	8323	3.5	25.0	27.7	29.1	0.250	0.312	13865	80	88	77	149
5	80.5	0.9	6.5	0.36	7442	8049	9619	4.2	29.6	31.0	42.4	0.310	0.364	16169	80	88	77	162
6	80.5	0.8	5.7	0.41	8458	9183	11085	4.9	31.8	33.5	46.1	0.370	0.415	18446	80	87	76	164
7	80.5	0.9	5.0	0.48	9808	10586	12499	5.6	34.2	35.4	36.1	0.410	0.478	21263	80	87	76	173

Stop Num	Brake Speed kph	Rel. Speed kph	Stop Time sec	Avg Decel (time) g	Min Torq. N*m	Avg Torq. (time) N*m	Max Torq. N*m	Min Press kg/cm ²	Avg Press (time) kg/cm ²	Max Press kg/cm ²	Min Stroke mm	Avg Stroke (time) mm	Max Stroke mm	Init Ling c	Final Ling c	Init Drum c	Final Drum c
Brake Power																	
1	80.5	24.2	6.24	0.28	5805	6269	6790	2.7	3.1	3.6	24.2	27.1	29.5	80	87	77	177
2	80.5	24.2	6.14	0.28	5726	6308	6994	2.6	3.2	3.7	26.2	29.6	31.8	96	106	120	237
3	80.5	24.2	6.12	0.28	5688	6283	6975	2.6	3.1	3.5	28.2	31.1	32.8	112	120	152	260
4	80.5	24.2	6.08	0.28	5652	6297	6985	2.7	2.9	3.5	30.0	31.8	33.4	129	139	180	258
5	80.5	24.2	6.11	0.29	5598	6324	7115	2.4	2.8	3.5	31.0	32.4	33.5	142	147	201	248
6	80.5	24.2	6.17	0.29	5530	6323	7238	2.5	2.9	3.7	32.2	33.9	35.0	149	155	219	260
7	80.5	24.2	6.31	0.28	5583	6292	7251	2.7	3.1	3.7	33.3	35.3	36.6	158	164	234	279
8	80.5	24.2	6.13	0.28	5553	6300	7193	2.7	3.1	3.7	33.7	36.1	37.6	168	173	249	291
9	80.5	24.2	6.29	0.29	5591	6327	7340	2.7	3.1	3.7	34.2	36.3	38.0	177	183	263	301
10	80.5	24.2	6.30	0.29	5540	6319	7241	2.6	3.1	3.7	34.0	36.4	38.3	187	192	276	308
Hot Stop																	
1	32.3	3.0	2.25	0.43	9329	9632	10148	3.5	3.7	4.4	38.3	39.0	39.8	195	196	287	295
Recovery																	
1	48.2	3.0	3.82	0.38	7875	8307	8943	2.7	3.2	4.0	33.1	34.6	35.6	192	193	252	279
2	48.2	3.0	3.78	0.38	7835	8306	9371	2.6	3.1	4.1	32.3	33.9	34.9	194	196	250	278
3	48.2	3.0	3.77	0.38	7869	8310	9071	2.5	3.0	3.9	31.8	33.2	34.3	196	197	248	278
4	48.2	3.0	3.92	0.38	7834	8308	9071	2.6	3.0	3.9	31.6	32.7	33.8	196	198	247	276
5	48.2	3.0	3.80	0.38	7845	8315	9100	2.4	3.0	3.7	30.6	32.3	33.4	197	198	244	274
6	48.2	3.0	3.78	0.38	7835	8316	9231	2.3	2.9	3.8	29.8	31.6	32.8	197	199	242	273
7	48.2	3.0	3.77	0.38	7841	8323	9305	2.2	2.8	3.8	29.6	31.1	32.3	197	199	240	272
8	48.2	3.0	3.78	0.38	7794	8321	9324	2.3	2.8	3.6	29.9	30.9	32.0	197	199	238	271
9	48.2	3.0	3.76	0.38	7824	8320	9259	2.4	2.7	3.7	29.7	30.5	31.6	197	198	236	269
10	48.2	3.0	3.79	0.38	7787	8329	9310	2.2	2.7	3.5	28.9	30.1	31.3	196	198	234	267
11	48.2	3.0	3.76	0.38	7778	8344	9375	2.2	2.6	3.5	29.0	29.9	31.0	196	197	232	267
12	48.2	3.0	3.76	0.38	7806	8342	9437	2.3	2.6	3.4	28.8	29.7	30.7	195	197	231	265
13	48.2	3.0	3.75	0.38	7782	8333	9357	2.3	2.6	3.4	28.7	29.5	30.5	195	196	229	263
14	48.2	3.0	3.76	0.38	7816	8332	9421	2.1	2.5	3.4	28.1	29.2	30.2	194	195	228	262
15	48.2	3.0	3.76	0.38	7781	8356	9597	2.2	2.5	3.4	28.3	29.2	30.3	193	195	227	262
16	48.2	3.0	3.75	0.38	7845	8347	9509	2.2	2.5	3.4	28.2	29.0	30.2	193	194	225	261
17	48.2	3.0	3.74	0.38	7767	8356	9480	2.2	2.5	3.4	28.1	29.0	30.1	192	193	225	259
18	48.2	3.0	3.76	0.38	7777	8343	9621	2.1	2.4	3.3	27.9	28.8	29.9	191	192	224	259
19	48.2	3.0	3.76	0.38	7844	8335	9668	2.2	2.4	3.3	28.0	28.7	29.8	191	192	223	259
20	48.2	3.0	3.76	0.38	7838	8345	9784	2.1	2.4	3.4	27.8	28.6	29.8	190	191	222	258

Performance Section

Thicknesses of the leading shoe (mm)

	1	2	3	4	5	6	7	8	9	10	11	12	Avg
Begin	20.230	21.890	22.310	21.860	19.570	16.530	16.650	19.770	21.970	22.540	21.980	20.210	20.459
End	20.060	21.650	22.250	21.240	19.330	16.540	16.690	19.650	21.650	22.400	21.720	20.120	20.275
Loss	0.170	0.240	0.060	0.620	0.240	-0.010	-0.040	0.120	0.320	0.140	0.260	0.090	0.184

Thicknesses of the trailing shoe (mm)

	1	2	3	4	5	6	7	8	9	10	11	12	Avg
Begin	20.520	22.160	22.390	21.780	19.770	16.610	16.750	19.620	21.830	22.330	21.840	20.200	20.483
End	20.610	22.000	22.470	20.510	19.780	16.700	16.810	19.520	21.610	22.450	21.680	20.050	20.349
Loss	-0.090	0.160	-0.080	1.270	-0.010	-0.090	-0.060	0.100	0.220	-0.120	0.160	0.150	0.134

Weight of the leading shoe(g)

Begin	7846
End	7799
Loss	47.0

Weight of the trailing shoe(g)

Begin	7750
End	7706
Loss	44.0

Weight of the drum(g)

Begin	75934
End	75932
Loss	2.0

BRAKE DYNAMOMETER TEST PROCEDURE: FMVSS121

BRAKE SIZE:

BRAKE TYPE: fuwa4515-12t

GAWR (lbs): 20000

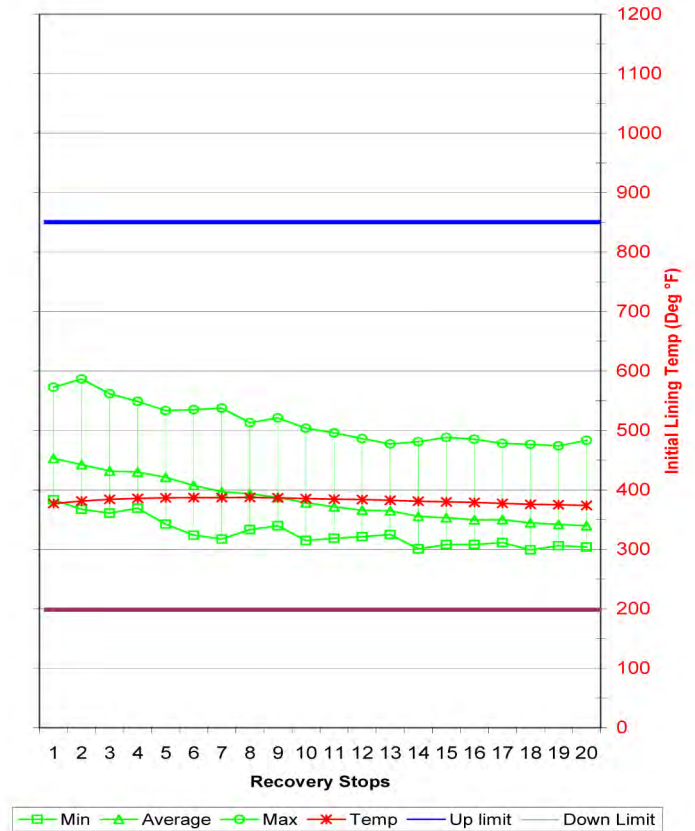
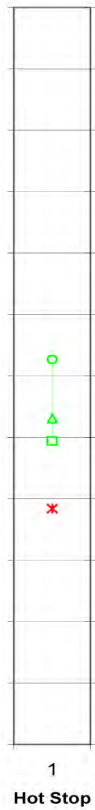
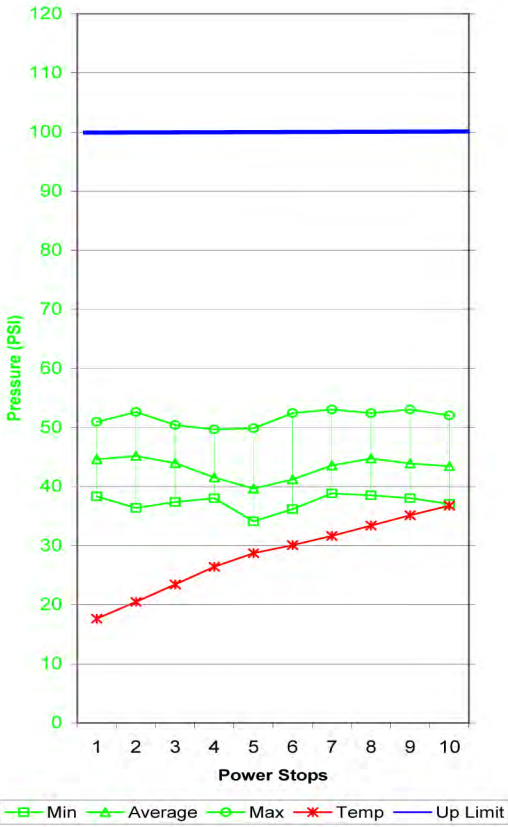
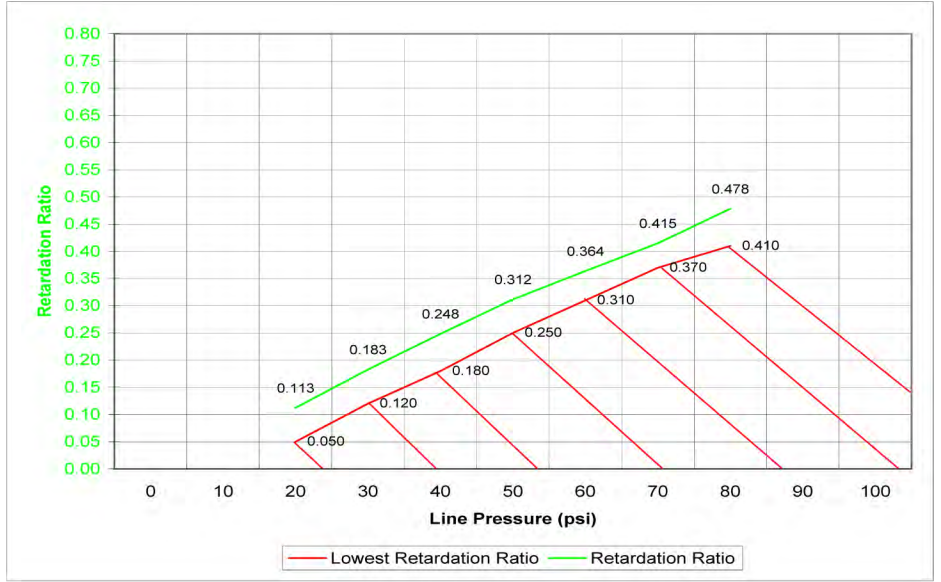
ROLLING RADIUS (in): 19.6

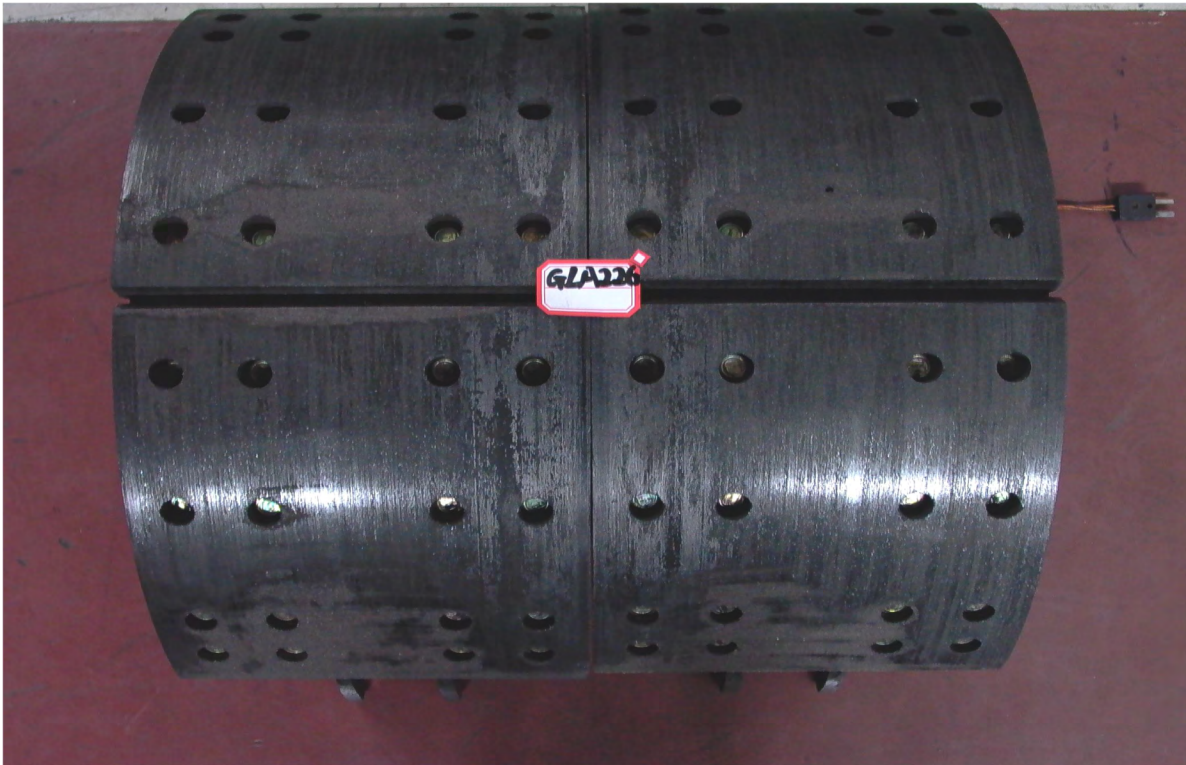
LEADING LINING:

TRAILING LINING:

AIR CHAMBER: 30-67-12

SLACK ADJUSTER: 30 DR





END