




## Physical Properties Test Report

**Link Test Report:** 101489-2-1  
**Test Description:** SAE J661 Rev Feb 1997 Brake Lining Quality Test  
**Purpose of Test:** To Evaluate the Characteristics of Brake Materials  
**Material Identification:** ROYAL BRAKES CANADA-D1035  
**Test Date:** 02/02/2019 - 02/02/2019

### Requested By:

**ROYAL BRAKES CANADA**  
Quality control Department  
1500-701 WEST GEORGIA STREET  
VANCOUVER, B.C. V7Y 1C6  
CANADA

### Report Approved by:

  
\_\_\_\_\_  
Supervising Engineer, M.Sc.

Date: 2/04/19



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## SAE J661 Rev Feb 1997 Brake Lining Quality Test

### Test Information

Customer Name	ROYAL BRAKES CANADA
Requestor	Quality con
Test Procedure	SAE J661
Program Number	J661 noinsp.chp
Test Coordinator	CA
Test Equipment	Chase Machine #5531
Test Dates	02/02/2019 - 02/02/2019
Datalogger	v1.0.10
Template Version	3.00

### Setup Details

Sample Material	ROYAL BRAKES CANADA-D1035
Sample Size	25.4 mm x 25.4 mm
Sample Manufacturer	ROYAL BRAKES CANADA
Test Pressure	1034 kPa

### Sample Test Summary

Normal Friction Coefficient	0.459	Pass
Normal Friction Class	G	
Hot Friction Coefficient	0.364	Pass
Hot Friction Class	F	
Minimum Bold Coefficient	0.329	Pass
Max Variation Below Average for Bold Readings	0.000	Pass
Max % Variation for Bold Readings	0.00%	Pass

**Pass / Fail**

**Pass**

### Comments:

Processed by:	Chris Arquette (313) 625-4000	Title:	Test Engineer	Date:	02/04/2019
Reviewed by:	Radoslaw Markiewicz (313) 625-4000	Title:	Supervising Engineer	Date:	02/04/2019

Data applicable to the materials tested. 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.



Sample 1  
101489-2-1

**Test Number**

Manufacturer  
**ROYAL BRAKES CANADA**

Application Sample 1  
1 0.307  
20 0.323

**Initial Baseline**

Material  
**ROYAL BRAKES CANADA-D1035**

Temp (°C) Sample 1

**First Fade**

Normal **0.459** **G**

93.3 0.331  
287.8 0.315  
(or Temp @ 10min)

Hot **0.364** **F**

**First Recovery**

Temp (°C) Sample 1  
260.0 0.312  
204.4 0.365  
148.9 0.391  
93.3 0.370

Average	Norm/Hot
0.312	
0.365	Hot
0.391	Hot
0.370	

**Wear**

Application Sample 1  
1 0.427  
100 0.382

**Second Fade**

Temp (°C) Sample 1  
**93.3 0.440**  
**121.1 0.459**  
**148.9 0.459**  
**176.7 0.487**  
**204.4 0.476**  
**232.2 0.464**  
**260.0 0.434**  
**287.8 0.364**  
315.6 0.333  
343.3 0.305  
(or Temp @ 10min)

Average	Max Var. < Average	Norm/Hot	% Var
<b>0.440</b>	<b>0.000</b>	<b>Normal</b>	<b>0%</b>
<b>0.459</b>	<b>0.000</b>	<b>Normal</b>	<b>0%</b>
<b>0.459</b>	<b>0.000</b>	<b>Normal</b>	<b>0%</b>
<b>0.487</b>	<b>0.000</b>	<b>-</b>	<b>0%</b>
<b>0.476</b>	<b>0.000</b>	<b>Normal</b>	<b>0%</b>
<b>0.464</b>	<b>0.000</b>	<b>Hot</b>	<b>0%</b>
<b>0.434</b>	<b>0.000</b>	<b>Hot</b>	<b>0%</b>
<b>0.364</b>	<b>0.000</b>	<b>Hot</b>	<b>0%</b>
0.333	0.000	Hot	0%
0.305	0.000	Hot	0%

**Second Recovery**

Temp (°C) Sample 1  
315.6 0.308  
260.0 0.326  
204.4 0.332  
**148.9 0.329**  
**93.3 0.369**

Average	Max Var. < Average	Norm/Hot	% Var
0.308	0.000	-	0%
0.326	0.000	Hot	0%
0.332	0.000	Hot	0%
<b>0.329</b>	<b>0.000</b>	<b>Hot</b>	<b>0%</b>
<b>0.369</b>	<b>0.000</b>	<b>-</b>	<b>0%</b>

**Final Baseline**

Application Sample 1  
1 0.364

Test Request #:  
101489-2-1



Customer Ref:  
ROYAL BRAKES CANADA-1035

20      0.408

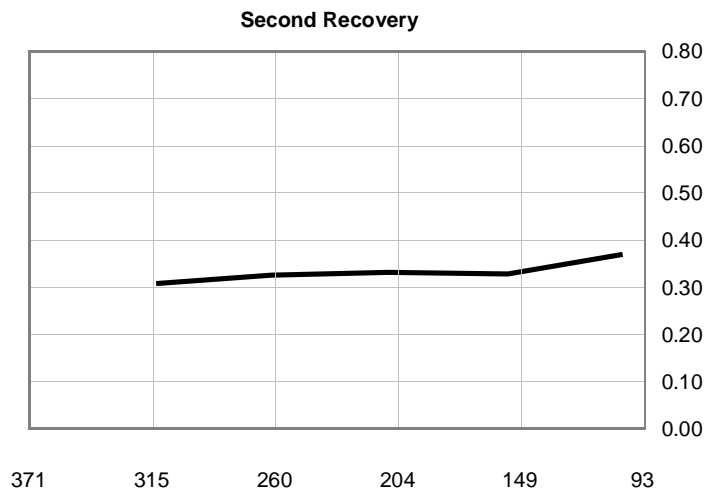
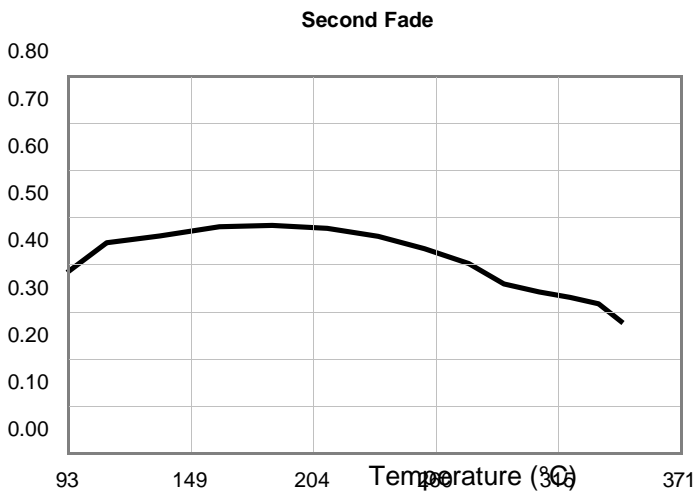
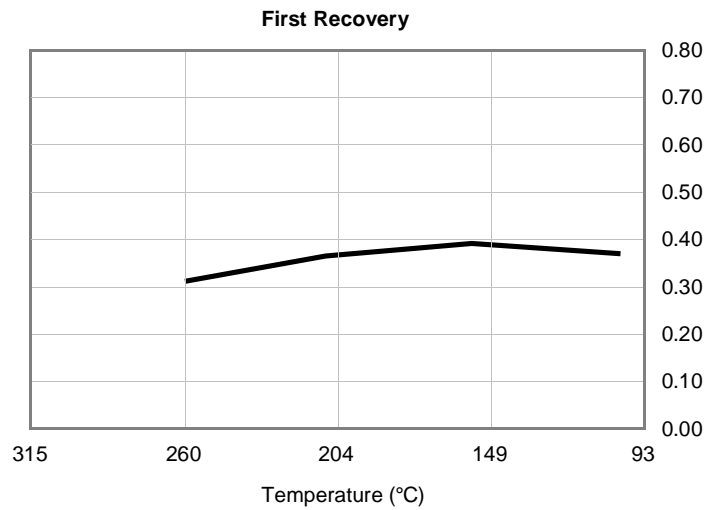
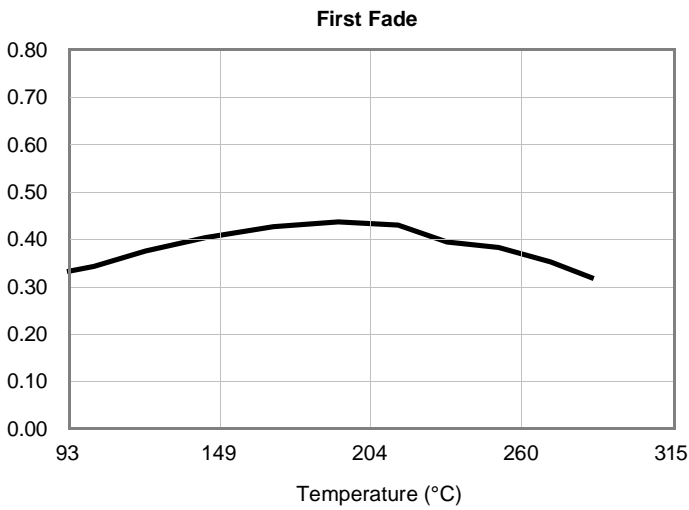
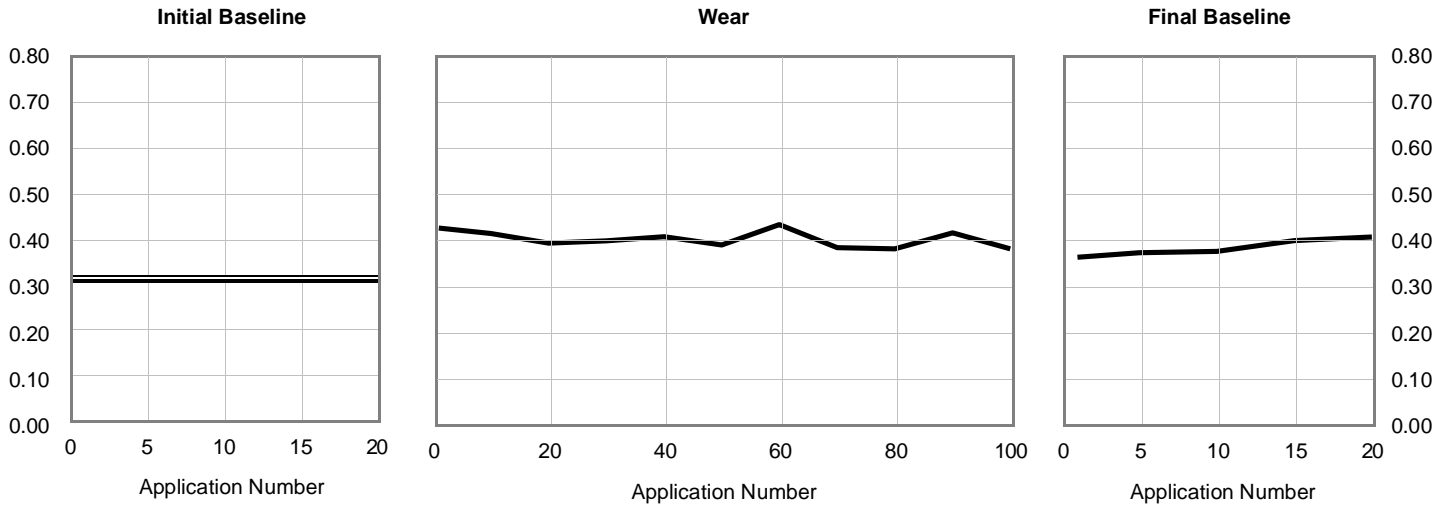




Manufacturer: ROYAL BRAKES CANADA  
Material: ROYAL BRAKES CANADA-D1035  
Test Pressure: 1034 kPa

2/2/2019  
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Sample 1 of 1

**Coefficient of Friction**





Temperature (°C)

Temperature (°C)