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THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

Rev 1/03



COMMUNICATION CONCERNING THE APPROVAL GRANTED OF A
REPLACEMENT BRAKE LINING ASSEMBLY OR REPLACEMENT DRUM
LINING PURSUANT TO ECE REGULATION NO: 90.01

Approval No: 90R-01183 / 3260

1. Applicant's name and address:

Juratek Ltd. Unit 16, Carcroft Enterprise Park, Station Road, Doncaster DN6 8DD

2. Manufacturer's name and address:

3. Make and type of brake lining assembly: DP11434

4. Make and type of brake lining: M10B

5. Vehicles/axles/brakes for which the brake lining assembly/drum brake lining type qualifies as original brake lining assembly: Not applicable

6. Vehicles/axles/brakes for which the brake lining assembly/drum brake lining type qualifies as replacement brake lining assembly: See Manufacturer's Information Documents

An executive agency of the Department for Transport

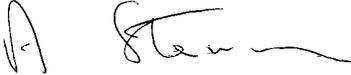


- 7. Submitted for approval on: 30 October 2006
- 8. Technical Service responsible for approval tests: Vehicle Certification Agency
- 8.1 Date of test report: 14 August 2006, 2 October 2006, 20 November 2006, and 12 October 2006.
- 8.2 Number of test report: VSG076368, VSG078083, VSG078084, and VSG075132.

9. Approval GRANTED

10. Place: BRISTOL

11. Date: 19 DECEMBER 2006

12. Signature: 

A. W. STENNING
Head of Product Certification

13. Annexed to this communication is a list of documents in the approval file deposited at the administrative services having delivered the approval and which can be obtained upon request.

VSG076362



| | | |
|----------|-------------------|-----------|
| 30/10/06 | VCA Job No | VSG076362 |
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Dear Ted,

Please find enclosed the necessary documentation for you to submit applications for approval for various brake lining assemblies DP11434 in M10B material pursuant to ECE Regulation No. 90/1. This application is on behalf of Juratek Ltd and cross-references to our DP M10B application details. We would like the application made to the VCA; I have addressed the formal letter of application accordingly.

The documents contained are: -

1. Formal letter of application
2. Manufacturers declarations
3. Lab test results :-
 - Friction test results
 - Shear test results
 - Compressibility test results
4. Vehicle fitment details
5. Disc pad assembly drawings
6. General disc pad marking drawing

Please note: Allocated with E11 90R-01183/3260 as a provisional number. This approval is based on VSG076368, VSG078083 and VSG078084 plus additional OE Materials testing on VSG075132.

Yours sincerely,



Susan Owens
Q.B.T.



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| 30/10/06 | VCA Job No | VSG076362 |
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For vehicles / axles / brakes for which the lining assembly qualifies as replacement brake lining assembly, see following application list.

| Assembly Number | Equivalent to | Also supplied as Assembly Number |
|-----------------|---------------|----------------------------------|
| DP11434 M10B | Equivalent to | SLB996 Ieca-M10B |
| | Equivalent to | |

Yours faithfully



Susan Owens
Q.B.T.



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| 30/10/06 | VCA Job No | VSG076362 |
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Manufacturer's Declaration

for granting of Approval for replacement brake lining according to ECE Regulation No. 90/1.

We, the company

declare herewith that

Replacement pad assemblies DP11434 M10B

are produced in our factory

We certify that no application has been made regarding this permission/approval by us or by companies appointed by us in countries which as contract parties would also be entitled to grant permission/approval.

We are aware of the following: -

A type marking of vehicles/vehicle components of the above mentioned type with the officially assigned approval mark can only be granted if the products have been manufactured in the above mentioned factory or at one of our listed and approved manufacturing sites, and if they comply with the official approval documents.

Companies manufacturing products for our company or under license may not use the officially assigned approval mark for vehicles/vehicle components produced at their factories unless they are listed as an approved manufacturing site, and fully comply with our quality procedures.

A marking of vehicles/vehicle components of the above mentioned type with different factory or trade marks but the same approval mark is only permissible if written consent has been obtained from the Vehicle Certification Agency.



Susan Owens
Q.B.T.



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| 30/10/06 | VCA Job No | VSG076362 |
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Friction test results

Conducted in accordance with Annex 8, of ECE Regulation No. 90 Rev1 including supplement 2 to the 01 series of amendments. (TRANS/SC1/WP29/GRRF/R90 Rev 1).

Type of assembly: Part Number DP11011 in material 1019B
(Previously agreed single test reference)

| | |
|---------------|---------------------------------|
| Type of test: | Constant torque (para. 2.2.2.2) |
| $\mu_{op: 1}$ | 0.311 |
| $\mu_{op: 2}$ | 0.332 |
| $\mu_{min:}$ | 0.208 |
| $\mu_{max:}$ | 0.431 |

Test dates: 08/06/2006



Susan Owens
Q.B.T.



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| 30/10/06 | VCA Job No | VSG076362 |
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Bench tests

| | | | |
|----------------------------|--------------|------|-----|
| Manufacturer: | | | |
| Type of brake lining assy: | DP11011 M10B | Page | 1/2 |

1. Shear strength test¹
(5.3.2.1 of ECE Regulation No. 90 Rev 1)

- Sample

Type of assembly: DP11011 M10B

Shear area [cm²]: 43.24

- Shear strength measured

Mean value [N/cm²]: 634.6

Required [N/cm²]: 250

Test date: 08/06/2006

1) Test procedure according to ISO Standard 6312 (2001)



Susan Owens
Q.B.T.



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|----------------------------|--------------|-----------|-----|
| 30/10/06 | VCA Job No | VSG076362 | |
| Manufacturer: | | | |
| Type of brake lining assy: | DP11011 M10B | Page | 2/2 |

2. Compressibility test²
(5.3.2.2 of ECE Regulation No. 90 Rev 1)

- Sample

Type: III
Type of assembly: DP11011 M10B
Thickness, d_0 (nominal value) [mm]: 12.9
Pad area [cm²]: 43.24
Ram dia (corresponding to caliper piston dia) [mm]: 51.48

- Compressibility at specific surface pressure of 8000 kPa

Measured at ambient temperature

Mean value: $\frac{d_4 - d'_3}{d_0} = 0.23 \%$

Required: $\leq 2\%$

Measured at 400°C

Mean value: $\frac{d_4 - d'_3}{d_0} = 0.838\%$

Required: $\leq 5\%$

Test dates: 085/062/2006

2) Test procedure according to ISO Standard 6310 (2001)



Susan Owens
Q.B.T.

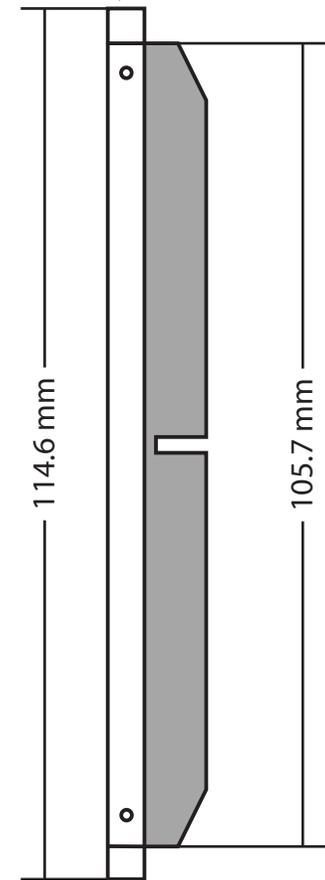
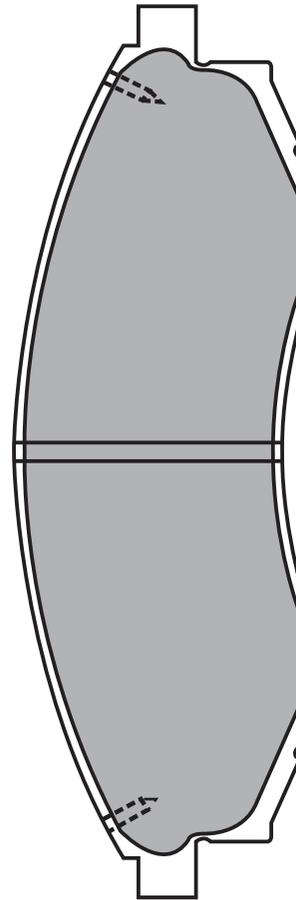
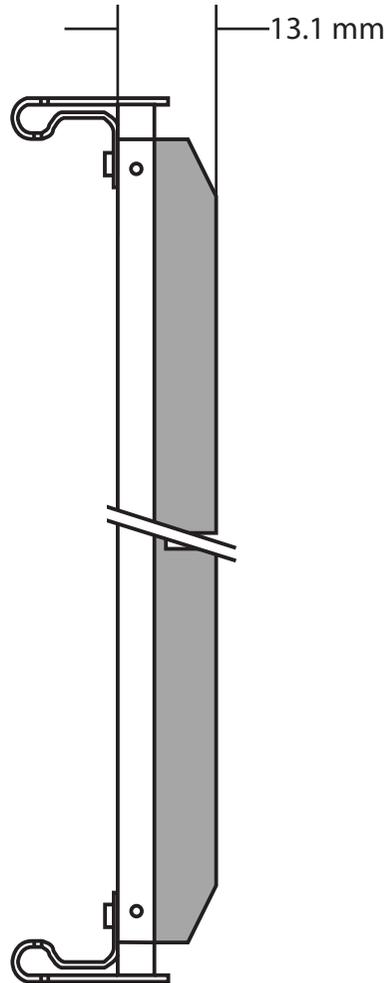
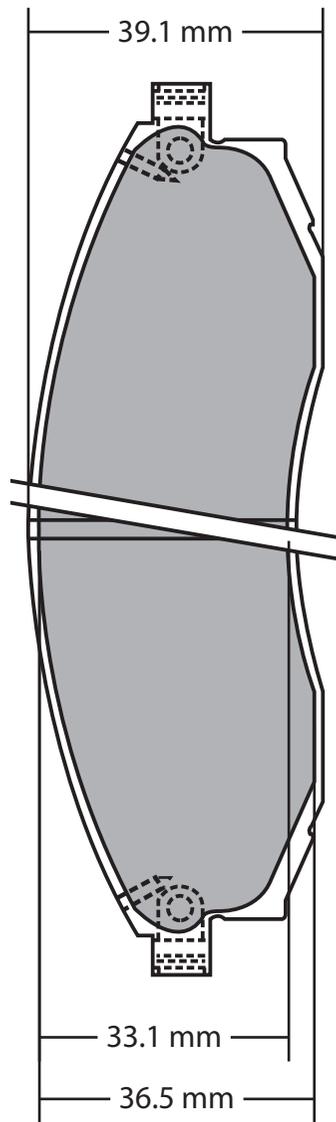


| MAKE | MODEL 1 | MODEL 2 | MODEL 3 | MODEL 4 | MODEL 5 | F/R | D | A | T | E | OE Caliper Manufacturer | S/V Dr | Disc / Drum / Dia | Max Th Disc / / Shoe Width |
|---------|---------|------------------------|-------------|---------|---------|-----|----|----|----|----|----------------------------|-----------|-------------------------|-------------------------------------|
| DP11434 | NISSAN | QX (A32 Series Maxima) | 3.0i V6 24V | | | F | 11 | 94 | 10 | 00 | Akebono | V | | |

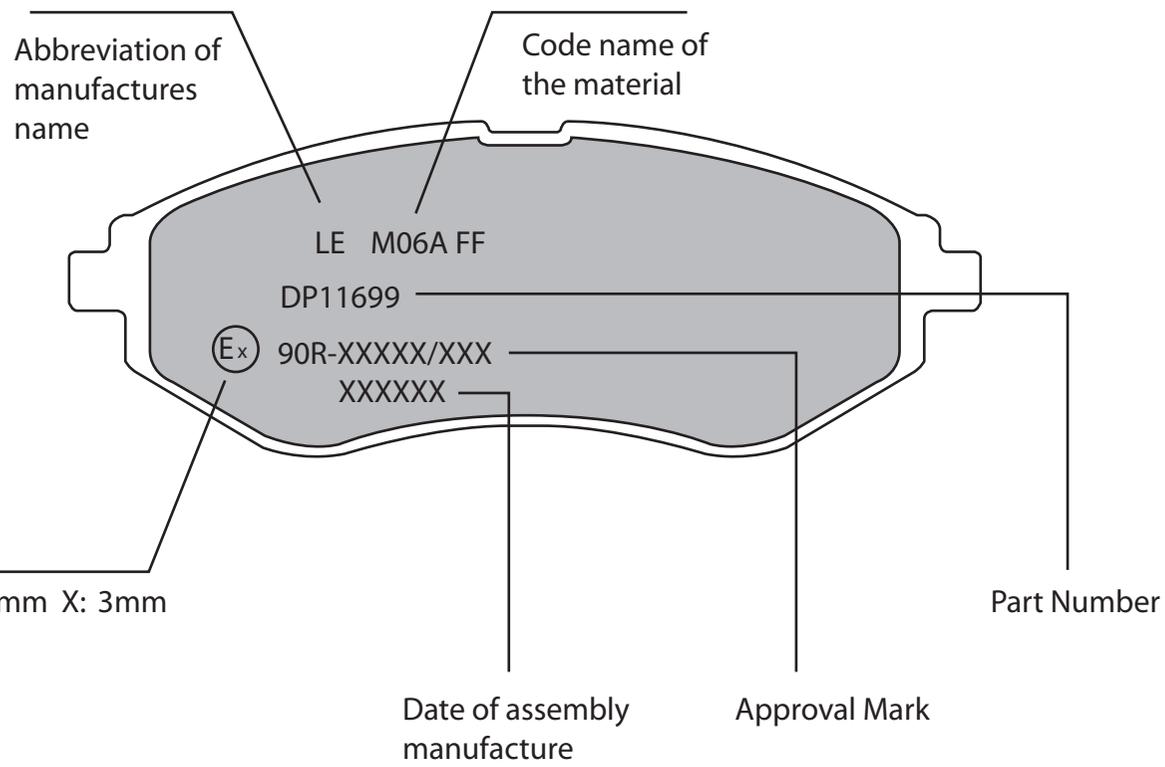


| CALIPER ACTUATION | BRAKING SPLIT F/R, DIAG or H / I | CALIPER PISTON DIA | HERST NUMBER | TYP / SCHL NUMBER | MAX SPEED Km/h | 80% V MAX Km/h | VEHICLE / | | ENERGY FACTOR .5 MV 2 | MAXIMUM ROLLING RADIUS | INERTIA UNLADEN | VEHICLE INERTIA LADEN |
|----------------------|--|--------------------------|-----------------|----------------------|----------------------|----------------------|-------------------------|----------------------------|-----------------------------|------------------------------|--------------------|-----------------------------|
| | | | | | | | AXLE WEIGHT LADEN | VEHICLE WEIGHT LADEN | | | | |
| Hyd | | | 9648 | 305 | 230 | 184 | 1425 | 2005 | 33940640 | 0.33 | 59.7452625 | 84.0626325 |





| | | | | | | |
|---------------|--------------|----------|--------------------------|-----------|--------------|--|
| Material Area | | Drawn By | Description | Issue No. | Part No. |  DP11434 |
| 3038.5 mm | | | Disc Pad Assembly | 1 | | |
| Modification | Initial Date | Date | General Tolerance | ± 0.25mm | Not To Scale | |



| | | | | | | |
|---------------|--------------|------|----------|--------------------------|-----------------|--------------|
| Material Area | | | Drawn By | Description | Issue No. | Part No. |
| | | | | Disc Pad Assembly | 1 | |
| Modification | Initial Date | Date | | General Tolerance | ± 0.25mm | Not To Scale |

