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Report 160122/1
« Tests on bearing pads »

Issued by:	Francisco Llaría Barúa
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**This report refers only to the tested samples, described in section "Samples".
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Applicant

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Samples

Identification	Description	Code	Arrival date
02799	Bearing pad	151201-010	01/12/2015

Tests

Test	Method
Shore A hardness	ASTM D2240
Tensile strength and elongation at break	ASTM D412
Compression set 22 hours at 67°C	ASTM D 395 (B)
Resistance to ozone 100 hours, 38°C, strained 20 %, 100 pphm	ASTM D 1149
Tear strength	ASTM D624 (angle)
Variation of Shore A hardness, tensile strength and elongation at break after aging for 70 hours at 100°C	ASTM D 573
Test Gehman	UNE ISO 1432
Temperature retraction (TR test)	ISO 2921

Results

Shore A hardness

1	2	3	4	5	Result
63 ShA	62 ShA	63 ShA	62 ShA	62 ShA	62 ShA

Date of test: 04/12/2015

Tensile strength and elongation at break

Tensile test has been performed using C type dumbbells.

	1	2	3	Result
Tensile strength	184 Kg/cm ²	174 Kg/cm ²	165 Kg/cm ²	174 Kg/cm²
Elongation at break	457%	417%	473%	457%

Date of test: 04/12/2015

Compression set 22 hours at 67°C

1	2	3	Result
15%	15%	15%	15%

Date of test: Start 09/12/2015 Fin 10/12/2015

Resistance to ozone

Test conditions:

- Ozone concentration: 100 pphm
- Temperature: 40°C
- Deformation: 20% strained
- Duration: 100 hours

The dimensions of the specimens were 90mm x 25mm x 2mm.

1	2	3
No cracks	No cracks	No cracks

Date of test: Start 03/12/2015 Fin 08/12/2015



Test specimens after 100 of exposition to ozone

Tear strength (angle)

Specimen 1	Specimen 2	Specimen 3	Specimen 4	Specimen 5	Result
57 N/mm	58 N/mm	52 N/mm	55 N/mm	53 N/mm	55 N/mm

Date of test: 09/12/2015

Variation of Shore A hardness, tensile strength and elongation at break after aging for 70 hours at 100°C

	Initial	Final	Variation
Shore A hardness	62 ShA	68 ShA	+6 ShA
Tensile strength	174 Kg/cm ²	173 Kg/cm ²	-0,6%
Elongation at break	417%	352%	-16%

Date of test: Start 04/12/2015 End 09/12/2015

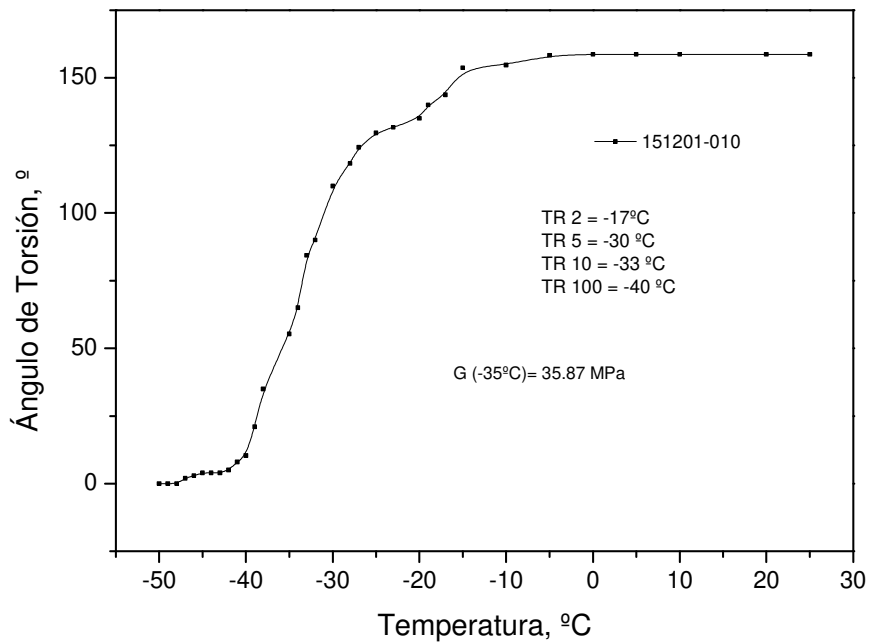
Test Gehman

Gehman test has been done using ethanol.

T2	T5	T10	T100	G(-35°C) (*)
-17°C	-30°C	-33°C	-40°C	35,87 MPa

(*) G(-35°C): Torsional modulus at -35°C

No crack in sample was found.



Y angle: Torsion angle

X angle: Temperature (Celsius degrees)

Date of test: 28/12/2015

Temperature retraction (TR test)

TR10	TR30	TR50	TR100
-38,0°C	-32,8°C	-25,5°C	-11,7°C

Date of test: 28/12/2015

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