

## TECHNICAL REPORT

**No.: LCTR 1434 001 19**

Inspection concerning

**Burning behaviour and/or capability to repel fuel or lubricant of materials  
used in the construction of certain categories of motor vehicles**

performed according to

**ECE-Regulation No. 118  
series of amendments: 03  
Including supplement: 1**

Type approval previously granted: **not applicable**  
Issue level: **correction 02**

### Contents:

1. General
2. Test details  
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## 1. General

Applicant: **ORTAÇLAR ELEKTRİK SAN. ve TİC. LTD. ŞTİ.**  
**Hadımköy mah. İbni Sina cad. No:09**  
**Arnavutköy / İstanbul / TURKEY**

~~Vehicle Type~~ **Type: PA 6 SPIRAL BORU**

~~Or component or ESA or STU~~

Type: **Material: %98 Polyamide PA 6 + %2**  
**mastherbatch (Black)**

## 2. Test details

	Inspector	Location of test:	Date of receipt of test item:	Date of test:
Main report	Yesim Akkas (Type Approval Engineer)	Mobilite Test Laboratory, Sanayi Mah. Yankı Sok. No:130-B, IZMIT-KOCAELI-TURKEY	12.03.2019	13.03.2019

### 2.1. Remarks

#### 2.1.1. Main report:

The tests carried out cover the following variations and equipment as far as these are relevant for burning behaviour of materials:

Worst case selection of material has been done based on the minimum material thickness and more colour intensity of material for testing acc. to ECE R118.03.

There are 10 variants/versions material produced (see Table 1 in Annex C) in same color ,in same material and in same thickness , outhewise in different outer diameter, so the thinnest material OSPA 7 (outer diameter 10 mm) and the thickest material OSPA 48 (outer diameter 54,5 mm) were tested according to Annex 8 of the ECE R118.03 to cover all variant/versions in Table 1.

Both variants had the same results which is represented below in this report.

- **For OSPA 7, thickness  $\geq$  0.50 mm (tested material)**
- **For OSPA 48, thickness  $\geq$  0.50 mm (tested material)**





3. **Statement of compliance**

The inspections items and measurements carried out have shown the compliance of the type described in this technical report and the attached Annexes with the requirements of the standard as stated on page 1.

Esch-sur-Azette, 26 March 2019,

Luxcontrol s.a.  
Service Homologation-automobile

Yesim Akkas  
Ingénieur-Inspecteur

Benedikt Leukart  
Ingénieur-Inspecteur

Annexes





\* LCTR 1434 001 19\* ORTAÇLAR \* PA 6 SPIRAL BORU\* -- \* R118\* Index, Page 1 of 1  
Details to the information package, including a summary in chronological order, concerning extensions and/or amendments

Type-approval previously granted: **not applicable**

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### **Main Report**

Technical Report No.:	LCTR 1434 001 19	3 Pages
	Index	1 Page

#### List of Annexes:

A: Test results	4 Pages
B: Sample Photos	1 Page
C: Information folder	3 Pages

### **Content of the information folder:**

- manufacturer's information document (page 1 to 2)
  - Table I (page 3)
- 





**1. Test results:**

**1.1. Version of the tested vehicle or Information concerning the ~~vehicle type~~ / component and the requested approval**

Following version(s) has (have) been used for testing:

**Type: PA 6 SPIRAL BORU**

**Material: %98 Polyamide PA 6 + %2 masterbatch (Black)**

**The tested item(s) is (are) representative of the worst case configuration.**

**1.1.1. Test to determine the horizontal burning rate of materials:**

**No test according to annex 6 of the Regulation was performed.**

**1.1.2. Test to determine the melting behaviour of materials**

**No test according to annex 7 of the Regulation was performed.**

**1.1.3. Test to determine the vertical burning rate of materials**

**per annex 8 test method:**

**The first tested sample OSPA 7**

The size of the sample

Length:	<b>560</b>	mm
Width:	<b>10</b>	mm
Thickness:	<b>0.50</b>	mm

**The second tested sample OSPA 48**

The size of the sample

Length:	<b>560</b>	mm
Width:	<b>54,5</b>	mm
Thickness:	<b>0.50</b>	mm

Material type

Isotropic / ~~Non-isotropic\*~~

*\*Strikethrough, as appropriate.*

*Note. 1. Three samples shall undergo the test in the case of an isotropic material, or six samples in the case of a non-isotropic material.*

**Results**

**Yes**

1<sup>st</sup> Direction of burn

~~Warp / Weft~~ / Not applicable\*





~~Ignition occurred after 5 second application of flame to sample\*~~

Ignition did not occur after 5 second application of flame to sample, so flame was applied to a new sample for 15 seconds\*

\* Strikethrough, as appropriate.

Note. 1. Ignition is deemed to have occurred if flaming of the specimen continues for 5 seconds after removal of the igniting flame

Sample No.	T1 Time from flame application to severance of marker 1 (secs)	T2 Time from flame application to severance of marker 2 (secs)	T3 Time from flame application to severance of marker 3 (secs)
1	0	0	0
2	0	0	0
3	0	0	0

Sample No.	D1 Burn distance 1 (mm)	D2 Burn distance 2 (mm)	D3 Burn distance 3 (mm)
1	0	0	0
2	0	0	0
3	0	0	0

Sample No.	V1 Burn Rate 1 (mm/min)	V2 Burn Rate 2 (mm/min)	V3 Burn rate 3 (mm/min)
1	0	0	0
2	0	0	0
3	0	0	0

Burn rate limit: 100 mm/min

Maximum burn rate :

0

Minimum burn rate :

0

Any burn rate > 1.5 x minimum burn rate:

Not Applicable

Material type

Non isotropic/ Not applicable\*

**Results**

NA

2<sup>nd</sup> Direction of burn

Warp / Weft \*

~~Ignition occurred after 5 second application of flame to sample\*~~

Ignition did not occur after 5 second application of flame to sample, so flame was applied to a new sample for 15 seconds\*

\* Strikethrough, as appropriate.

Note. 1. Ignition is deemed to have occurred if flaming of the specimen continues for 5 seconds after removal of the igniting flame





Sample No.	T1 Time from flame application to severance of marker 1 (secs)	T2 Time from flame application to severance of marker 2 (secs)	T3 Time from flame application to severance of marker 3 (secs)
1	-	-	-
2	-	-	-
3	-	-	-

Sample No.	D1 Burn distance 1 (mm)	D2 Burn distance 2 (mm)	D3 Burn distance 3 (mm)
1	-	-	-
2	-	-	-
3	-	-	-

Sample No.	V1 Burn Rate 1 (mm/min)	V2 Burn Rate 2 (mm/min)	V3 Burn rate 3 (mm/min)
1	-	-	-
2	-	-	-
3	-	-	-

Burn rate limit: 100 mm/min

Maximum burn rate :

Minimum burn rate :

Any burn rate > 1.5 x minimum burn rate:

-
-
<b>Not Applicable</b>

- No sample in a set of three had a burn rate greater than 1.5 x the minimum burn rate result \*

~~- One or more samples in a set of three had a burn rate greater than 1.5 x the minimum burn rate result \*~~

*\*Strikethrough, as appropriate.*

*Note. If any result in any set of three samples exceeds the minimum burn rate result by 50 per cent, another set of three samples shall be tested for that direction*

- No samples in a set of three burnt to the top marker thread\*

~~- All samples in a set of three burnt to the top marker thread\*~~

~~- One sample in a set of three burnt to the top marker thread, but one or more other samples in the same set failed to burn to the top marker thread\*~~

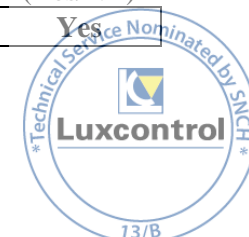
*\*Strikethrough, as appropriate.*

*Note. If one or two samples in any set of three samples fail to burn to the top marker thread, another set of three samples shall be tested for that direction*

**No sample had a burn rate (V1, V2 or V3) greater than 100 mm/min**

Complies  
(Yes/NA)

Yes





1.1.4. Test to determine the capability of materials to repel fuel of lubricant

**No test according to annex 9 of the Regulation was performed.**

1.1.5. Test to determine the electric cables resistance to flame propagation

**No test according to annex 10 of the Regulation was performed.**

**1.2. Remarks**

The inspection results are only applicable to items which have been tested.  
Corrected the Table-1.

**1.3. Test facilities**

Calibration of measuring and test equipment used to carry out the inspections is in accordance with the standard stated on page 1 of this report and with ISO 17025.

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### TEST SAMPLE PHOTOS



**Sample 1: OSPA 7**



**Sample 2: OSPA 48**

**Type: PA 6 SPIRAL BORU**

**Material: %98 Polyamide PA 6 + %2 mastherbatch**

**Color: Black**



**INFORMATION DOCUMENT FOR  
ECE R118.03  
BURNING BEHAVIOUR OF MATERIALS**

04.03.2019

**APPLICANT DETAILS**

**Applicant Company Name and Address:**

ORTAÇLAR ELEKTRİK SAN. ve TİC. LTD. ŞTİ.

Hadımköy mah. İbni Sina cad. No:09 Arnavutköy / İstanbul / TURKEY

**MANUFACTURER DETAILS**

**Manufacturer Company Name and Address:**

ORTAÇLAR ELEKTRİK SAN. ve TİC. LTD. ŞTİ.

Hadımköy mah. İbni Sina cad. No:09 Arnavutköy / İstanbul / TURKEY

**Requested Tests:**

- ECE-R 118.03
- ECE-R 118 Annex 6 Horizontal Burning Rate of Materials
- ECE-R 118 Annex 7 Melting Behaviour of Materials
- ECE-R 118 Annex 8 Vertical Burning Rate of Materials
- ECE-R 118 Annex 9 Resistance to Fuel & Lubricant Absorption
- ECE-R 118 Annex 10 (6722-1:2011, paragraph 5.22) Resistance to flame propagation for cables
- FMVSS 302 / CMVSS 302 Horizontal Burning Rate of Materials

Other:

**MATERIAL DETAILS**

**Type:**

**PA 6 SPIRAL BORU**

**Commercial Description:**

NA





<p><b><u>Base Material(s) Designation :</u></b></p> <p><b>%98 Polyamide PA 6 + %2 mastherbatch (Black)</b></p> <p><b>Note: If material is compound, please mention a percentage of each ingredient, for example %90PP +%10 adhesive etc)</b></p>
<p><b><u>Material is isotropic or nonisotropic:</u></b></p> <p>Isotropic</p>
<p><b><u>Composite or single material:</u></b></p> <p>Single material</p>
<p><b>*For composite material</b></p> <p><b><u>Number of layers: --</u></b></p>
<p><b><u>Type of surface material :</u></b></p> <p><b>%98 Polyamide PA 6 + %2 mastherbatch (Black)</b></p>
<p><b><u>Thickness :</u></b></p> <p>See Table 1</p>
<p><b><u>Colour:</u></b></p> <p>Black</p>
<p><b><u>Material use :</u></b> Cable sleeves or cable conduits for automotive industry, rail systems, solar power plants, machine connection.</p>



**Table 1: PRODUCT RANGE**

Nominal Diameter	Black Code RAL 9005	Internal Diameter	Outer Diameter	Thickness
7	OSPA 7 (tested)	6.5	10	0.50
8.5	OSPA 8.5	8.5	12	0.50
9	OSPA 9	10	13	0.50
11	OSPA 11	12	15.8	0.50
13.5	OSPA 13.5	14.2	18.4	0.50
16	OSPA 16	16.5	21.2	0.50
21	OSPA 21	23.5	28.4	0.50
29	OSPA 29	29	34.5	0.50
36	OSPA 36	36	42.5	0.50
48	OSPA 48 (tested)	48	54.5	0.50