



FORM NO : NTH/CHN/F5

भारत सरकार Government of India  
राष्ट्रीय परीक्षण शाला (द.क्षे.)  
NATIONAL TEST HOUSE (SR)

347406

तस्मणी, चेन्नई - 600 113. Taramani, Chennai - 600 113.  
Phone : 22439374/22431157 Fax : 22431159 Email : nthsr@tn.nic.in

**TEST CERTIFICATE**

| Test Certificate No.   | Date of Issue | Code No.     | Page | No. of Page |
|------------------------|---------------|--------------|------|-------------|
| NTH(SR)/EL(C)/2014/277 | 16.07.2014    | 201407150001 | 01   | 04          |

Issued to &amp; address

: COBA EUROPE LTD.  
MARLBOROUGH DRIVE, FLECKNEY,  
LEICESTERSHIRE LE8,  
8UR, UNITED KINGDOM

Customer's Ref. No.

: ZIPR/LOCAL/67-14-15, Date: 26.06.2014

Description of Test Item

: Electrical Insulating matting made of Elastomer

Identification of Test Item

: Electrical Insulating matting, Class '0'

Date of Receipt of Sample

: 01.07.2014

Method used for test/Specification

: As per IEC 61111 Edition 2.0 2009-04

Tested by

Checked by

Approved by

V. Sivaguru  
Scientific Officer (Elect.)

S. B. Nandakumar  
Scientist SC (Elect.)

S. B. Nandakumar  
Scientist SC (Elect.)



भारत सरकार Government of India  
राष्ट्रीय परीक्षण शाला (द.क्षे.)  
NATIONAL TEST HOUSE (SR)

347406

तारमणी - चेन्नई - 600 113, Taramani, Chennai - 600 113.  
Phone : 22433134, 22431157 Fax : 22433158 Email : nthsr@tn.nic.in

**TEST CERTIFICATE**

| Test Certificate No.   | Date of Issue | Code No.     | Page | No. of Page |
|------------------------|---------------|--------------|------|-------------|
| NTH(SR)/EL(C)/2014/277 | 16.07.2014    | 201407150001 | 02   | 04          |

**1. Description of the sample :**

- a. Nomenclature : Electrical Insulating matting made of Elastomer, Class '0'  
b. Size : 2m x 1m, Thickness: 3.60 mm,  
c. Quantity : 2 Number.

As requested the sample has been subjected to IEC 61111 Edition 2.0 2009-04 with the results noted below.

**2. Visual Inspection (Cl. 5.2)**

- a. Classification : Class '0'  
b. Composition : Elastomer, with slip resistance both sides  
c. Dimensions : Length: 2m, Breadth: 1 m, Thickness: 3.60 mm,  
d. Workmanship and finish : Generally Satisfactory, no harmful physical irregularities found on both surfaces

| 3. Tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Observed                          | Specified                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------------------|
| a. <b>Mechanical Puncture resistance</b><br>(as per cl. 5.5.2 of the specification)<br>Test carried out on both sides of the sample on two samples.<br><b>Puncture resistance in N</b><br>i. Side 1<br>ii. Side 2                                                                                                                                                                                                                                                                              | Satisfactory<br>120<br>120        | 70 (Min)                                       |
| b. <b>Voltage Proof test</b><br>(as per cl. 5.6.2.2.2 of the specification)<br>Mask with picture frame made up of insulating material with a opening of 762x762mm in the middle and kept on a earthed metal plate. The opening was filled by a conductive material. The sample kept on this arrangement and top electrode of size 762mm X 762mm place above this.<br>(such arrangement shown in Picture 1)<br><br>An ac voltage of 5kV (rms) at 50 Hz applied and kept constant for 3 minutes. | Withstood the test satisfactorily | Shall withstand without breakdown or flashover |

Tested by

V. Sivaguru  
Scientific Officer (Elect.)

Checked by

S. B. Nandakumar  
Scientist SC (Elect.)

Approved by

S. B. Nandakumar  
Scientist SC (Elect.)



भारत सरकार Government of India  
राष्ट्रीय परीक्षण शाला (द.क्षे.)  
NATIONAL TEST HOUSE (SR)

347406

तरमणी चेन्नई - 600 113 Taramani Chennai - 600 113.  
Phone : 22431374, 22431157 Fax : 22453138 email : lathsr@tn.nic.in

| Test Certificate No.   | Date of Issue | Code No.     | Page | No. of Page |
|------------------------|---------------|--------------|------|-------------|
| NTH(SR)/EL(C)/2014/277 | 16.07.2014    | 201407150001 | 03   | 04          |

|                                                                                                                                                                                                                                                                                                                                                                                                                                | Observed                                                                             | Specified                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| c. Voltage Withstand Test<br>(as per cl. 5.6.2.3 of the specification)<br>Electrode: 25mm (Top) x 75mm (Bottom)<br>An ac voltage at 50 Hz applied with a rate of rise of voltage 1000V/sec. until it reaches 10kV.                                                                                                                                                                                                             | Withstood the test satisfactorily                                                    | Shall withstand without breakdown or flashover                                                |
| d. Ageing test (as per cl. 5.7 of specification)<br>Sample conditioned at 70°C±2°C for 168 hours.<br>Mechanical Puncture resistance<br>(as per cl. 5.5.2 of the specification)<br>Test carried out on both sides of the sample on two samples.<br>Puncture resistance in N<br>i. Side 1<br>ii. Side 2                                                                                                                          | Satisfactory<br>108<br>108                                                           | (Minimum 80% of puncture resistance before ageing)<br>96 (Min)<br>96 (Min)                    |
| e. Flame retardance test (as per cl.5.8.1 of the specification)<br>Application of flame 10s and after withdrawal, the propagation of flame was observed for 55s and it shall not reach any point of 50mm diameter.                                                                                                                                                                                                             | Satisfactory<br>42mm                                                                 | Propagation of flame shall not reached 50 mm diameter of circle                               |
| f. Low Temperature folding test<br>(as per cl. 5.8.2 of the specification)<br>Sample conditioned at (-)25±3°C for 4 hours.<br>After this the test piece folded at the midpoint and placed between two polyethylene plates and subjected to a force of 100N for 30s.<br>i. Visual inspection<br>ii. Voltage Withstand Test<br>(An ac voltage at 50 Hz applied with a rate of rise of voltage 1000V/sec. until it reaches 10kV). | Satisfactory as no crack or tear break observed<br>Withstood the test satisfactorily | Shall not show crack or tear break observed<br>Shall withstand without breakdown or flashover |

Tested by  
  
V. Sivaguru  
Scientific Officer (Elect.)

Checked by  
  
S. B. Nandakumar  
Scientist SC (Elect.)

Approved by  
  
S. B. Nandakumar  
Scientist SC (Elect.)



भारत सरकार Government of India  
राष्ट्रीय परीक्षण शाला (द.क्षे.)  
NATIONAL TEST HOUSE (SR)

347406

तरमणी चेन्नई - 600 113 Taramani Chennai - 600 113.  
Phone : 22432374, 22431157 Fax : 22483158 email : nthsr@tn.nic.in

TEST CERTIFICATE

| Test Certificate No.   | Date of Issue | Code No.     | Page | No. of Page |
|------------------------|---------------|--------------|------|-------------|
| NTH(SR)/EL(C)/2014/277 | 16.07.2014    | 201407150001 | 04   | 04          |

| g. Acid resistance<br>(as per cl. 5.9 of the specification)<br>Sample shall be immersed in Sulfuric acid solution at 23°C±2°C for 8h. after this rinsed with water and dried for 2h at 70°C.<br><br>Mechanical Puncture resistance<br>(as per cl. 5.5.2 of the specification)<br>Test carried out on both sides of the sample on two samples.<br>Puncture resistance in N<br>i. Side 1<br>ii. Side 2<br>iii. Voltage Withstand Test<br>(An ac voltage at 50 Hz applied with a rate of rise of voltage 1000V/sec. until it reaches 10kV). | Observed                                                      | Specified                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Satisfactory<br>97<br>96<br>Withstood the test satisfactorily | (Minimum 75% of puncture resistance before ageing)<br>90 (Min)<br>90 (Min)<br>Shall withstand without breakdown or flashover |
| h. Oil resistance<br>(as per cl. 5.10 of the specification)<br>Sample shall be immersed in Oil 23°C±2°C at 50% RH for 3h. after this rinsed with water and dried for 24h at 70°C.<br><br>Mechanical Puncture resistance<br>(as per cl. 5.5.2 of the specification)<br>Test carried out on both sides of the sample on two samples.<br>Puncture resistance in N<br>i. Side 1<br>ii. Side 2<br>iii. Voltage Withstand Test<br>(An ac voltage at 50 Hz applied with a rate of rise of voltage 1000V/sec. until it reaches 10kV).            | Observed                                                      | Specified                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Satisfactory<br>96<br>96<br>Withstood the test satisfactorily | (Minimum 75% of puncture resistance before ageing)<br>90 (Min)<br>9. (Min)<br>Shall withstand without breakdown or flashover |

Note: The average ambient condition during the above test was as follows:-

Temperature : 25±2°C  
Relative Humidity : 60 to 70 %

###END OF TEST CERTIFICATE###

Tested by

V. Sivaguru  
Scientific Officer (Elect.)

Checked by

S. B. Nandakumar  
Scientist SC (Elect.)

Approved by

S. B. Nandakumar  
Scientist SC (Elect.)