GINGER CEBTP

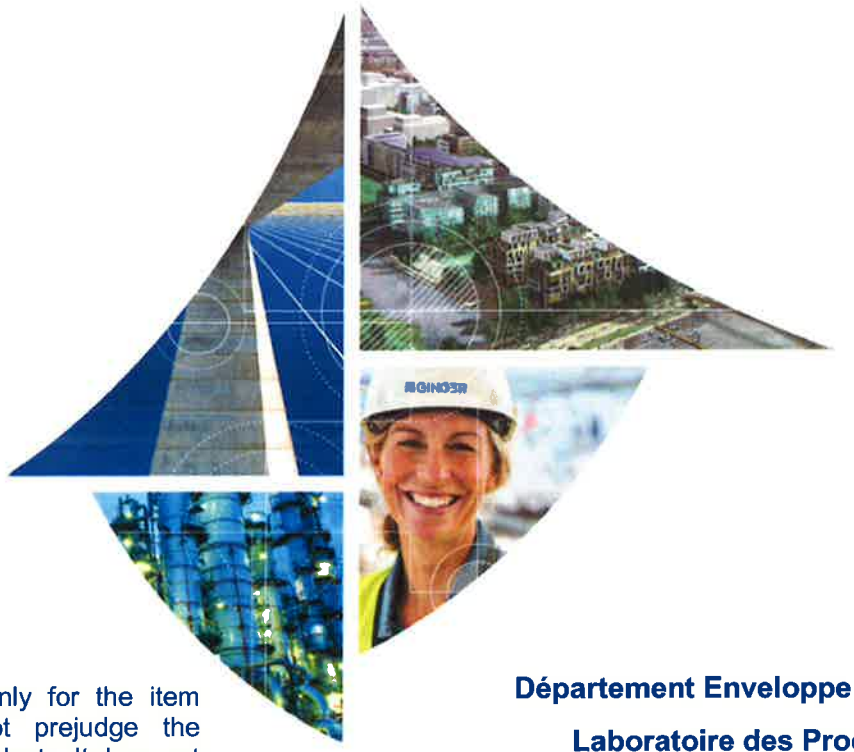
REFLECTIV

ZI des petits carreaux
2, avenue des orangers
94385 NONNEUIL SUR MARNE
France

Report No BEB1.H.5027-1

Pendulum test on clear glass - 8 mm thick + adhesive film

12 December 2017



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*This report contains **5** pages*

No drawings were supplied

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Laboratoire des Produits de l'Enveloppe

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GINGER CEBTP

CONTENT

1. IDENTIFICATION OF THE SAMPLE

Process:

Pendulum impact test

8 mm thick clear glass + adhesive film

Size 876 * 1,938 mm

Upon the request of the company: **REFELCTIV**

For the company: **REFLECTIV**

Tests:

Tests venue: In the CRDC laboratory of St Gobain Glass France
1, rue de Montluçon – BP40103 THOUROTTE (60)

Date of the tests: 29 November 2017

Test specimens:

Implemented by **CRDC, Saint Gobain**

Nature of the tests:

Pendulum impact tests in accordance with the provisions of the French standard **NF EN 12600** dated September 2003: Glass in building - "Pendulum test - Impact test method and classification for flat glass"

Observations: Classification aimed for: 1B1

2. REFERENCE TEXTS

NF EN 14449 dated October 2005: Glass in building - "Laminated glass and laminated safety glass - Evaluation of conformity/Product standard"

NF EN 12600 dated September 2003: Glass in building - "Pendulum test - Impact test method and classification for flat glass"

3. CONTEXT

The company **REFLECTIV**, represented by **Mr. Doll**, went to GINGER CEBTP, to entrust it with the assignment of performing pendulum impact tests to characterise their adhesive film added on clear glass, namely:

Pendulum impact test

As per the provisions of standard **NF EN 12600** dated September 2003: Glass in building - "Pendulum test - Impact test method and classification for flat glass"

4. OBJECT

The purpose of this report is to summarise the results found during the above-mentioned test based on the test procedures described in standard **NF EN 12600** dated September 2003: Glass in building - "Pendulum test - Impact test method and classification for flat glass"

5. PEOPLE INVOLVED

6.1 People carrying out the tests

- Mr Gouy SAINT GOBAIN GLASS

6. DESCRIPTION OF THE MODELS

- ✓ **Glass product** Non-tampered 8 mm thick clear glass
  Measured thickness: 8.1 mm
  Size 876 * 1,938 mm
- ✓ **Film** **SEC 058***, 2 films, thickness: 0.1 mm
  Nature of the film not provided by the company REFLECTIV
- ✓ **Identification of the glass** 1 glass 8% + 1 film SEC058 (PET 2 PLY)

Note: The film is on the opposite side of the impact

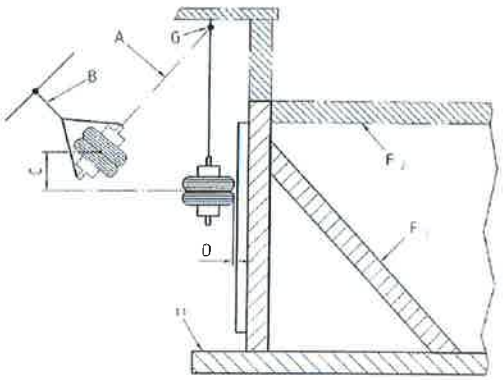
*Reference provided by the company RELECTIV

7. PRINCIPLE OF THE TEST

7.1. Pendulum impact test

The pendulum impact test consists in dropping a 50 kg mass made of two pneumatic tires at the centre of the glass product.

Classification	Drop height (mm)
3	190
2	450
1	1200



Classification as per standard **NF EN 12600**

8. RESULTS OF THE TEST

8.1. Test on 8 mm thick glass + SEC 058 film

Classification aimed at: 1B1

Drop height: 1,200 mm

Film on the opposite side of the impact

Tests	Drop height	Results
Glass No 1	1,200 mm	The glass breaks but stays in place, the glass is still held in place. **COMPLIANT**
Glass No2	1,200 mm	The glass breaks but stays in place, the glass is still held in place. **COMPLIANT**
Glass No 3	1,200 mm	The glass breaks but stays in place, the glass is still held in place. **COMPLIANT**
Glass No 4	1,200 mm	The glass breaks but stays in place, the glass is still held in place. **COMPLIANT**

9. CONCLUSION

The 8 mm clear glass panes with SEC 058 film tested are considered to **pass** the pendulum impact test for class **1B1** according to standard **NF EN 12600**.

THIS TEST REPORT DOES NOT PREJUDGE OF THE ALLOCATION OF A QUALITY BRAND

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Produits de l'Enveloppe

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