




**Report No.** TC.17.03.000706

**Date of Issue** 04/05/2017

**Applicant:** Solar System Unit, Energy Solutions Company, SHARP CORPORATION

**Applicant address:** 282-1 Hajikami, Katsuragi City, Nara, 639-2198, Japan

**Description of the test subject:**

| Sample | Description  | Photo  |
|--------|--|--|
| 001    | Name: PV<br><br>Style No: Laminate including class+ EVA+ backsheet, which is identical with Sharp PV module ND-RB270 and ND-RB275<br><br>Manufacturer: Sharp |  |

**Receipt Date of Sample:** 03/23/2017

**Date of Testing:** From 03/23/2017 to 04/05/2017

**Sample submitted:** The sample(s) was (were) submitted by applicant and identified.

**Conclusion:**

| Test Items |  |   | Result |
|------------|--|---|--------|
| No.        | Items  | Standard                                      |        |
| 1          | Reaction to fire tests- ignitability of building products subjected to direct impingement of flame | EN13501-1:2007+A1:2009<br>EN ISO 11925-2:2002 | Pass   |

Remark: Pass=Meet Standard's Requirement  
Fail= Below Standard's Requirement  
\* = No Specified Requirement.

Note: (1) General Terms & Conditions as mentioned overleaf, (2) The results relate only to the items tested, (3) The test report shall not be reproduced except in full without the written approval of the company. (4) Samples are tested as received.





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### Test Results

**EN13501-1:2007+A1:2009 Fire classification of construction products and building elements-Part 1: Classification using data from reaction to fire tests.**

**Test method: EN ISO 11925-2 Reaction to fire tests- ignitability of building products subjected to direct impingement of flame- part2: single-flame source**

#### 1.1 Sample details

|                |              |
|----------------|--------------|
| Size of sample | 250 mm×90 mm |
| Thickness      | About 3mm    |

|              |                    |                |              |
|--------------|--------------------|----------------|--------------|
|              | Temperature ( °C ) | Humidity ( % ) | Duration (h) |
| Precondition | 23±2               | 50±5           | 48           |

#### 2.1 Surface exposure

Flame application time: 15 seconds

##### Test Results:

|                              |         |         |         |         |         |         |
|------------------------------|---------|---------|---------|---------|---------|---------|
| Specimen                     | 1       | 2       | 3       | 4       | 5       | 6       |
| Flames spread within 20s(mm) | < 150mm | < 150mm | < 150mm | < 150mm | < 150mm | < 150mm |
| Ignition of the paper        | No      | No      | No      | No      | No      | No      |

#### 2.2 Edge exposure

Flame application time: 15 seconds

##### Test Results:

|                              |         |         |         |         |         |         |
|------------------------------|---------|---------|---------|---------|---------|---------|
| Specimen                     | 1       | 2       | 3       | 4       | 5       | 6       |
| Flames spread within 20s(mm) | < 150mm | < 150mm | < 150mm | < 150mm | < 150mm | < 150mm |
| Ignition of the paper        | No      | No      | No      | No      | No      | No      |

#### Requirements (EN13501-1:2007+A1:2009 class E):

|   |                         |                              |
|---|-------------------------|------------------------------|
| Class   | Classification criteria | Additional classification    |
| E (EN ISO 11925-2,exposure=15s)                                   | Fs < 150mm within 20 s  | Flaming droplets/particles * |
| *Pass=Non-ignition of the paper.<br>Fail = ignition of the paper. |                         |                              |

**Conclusion:** The submitted samples **comply** with the **Class E** requirement prescribed in the EN13501-1:2007+A1:2009.

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**Statement:** The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential smoke and toxicity hazard of the product in use.

Changzhou Jinbiao Railway Transportation Technical Service Co., Ltd.

Drafted by:

Lynn liu

Approved by:

Shen hui

-End of Report-

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3 of 3  
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