

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

**Measurement procedures for materials used in photovoltaic modules –
Part 7-3: Accelerated stress tests – Methods of abrasion of PV module external
Surfaces**

**Procédures de mesure des matériaux utilisés dans les modules
photovoltaïques –
Partie 7-3: Essais sous contraintes accélérés – Méthodes d’abrasion des
surfaces externes des modules photovoltaïques**





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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**MEASUREMENT PROCEDURES FOR MATERIALS
USED IN PHOTOVOLTAIC MODULES –**

**Part 7-3: Accelerated stress tests –
Methods of abrasion of PV module external surfaces**

AMENDMENT 1

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Amendment 1 to IEC 62788-7-3:2022 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this Amendment is based on the following documents:

| | |
|--------------|------------------|
| Draft | Report on voting |
| 82/2259/FDIS | 82/2277/RVD |

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

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- revised.

CONTENTS

Add title of new Figure 1 and renumber Figure 1 to Figure 2.

4.2.2 Brush

Replace the existing text of subclause 4.2.2 by the following:

The brush block shall be (38 ± 1) mm \times (89 ± 1) mm in area and (13 ± 1) mm in thickness.

The brush bristles shall consist of polyamide 612, poly(hexamethylene dodecanediamide) with a 50:50 molar ratio of monomer types, $(0,23 \pm 0,03)$ mm in diameter that extend (38 ± 2) mm from the brush block. Brushes with bristles shorter than 35 mm in length shall be replaced. The bristle profile shall be round, with no taper or other change in geometry along their length. The lateral repeat space of 6,4 mm shall be used for the bristle tuft rows across the width of the brush and 12,7 mm shall be used for the bristle tuft columns along the length of the brush. For the staggered bristles, an offset space of 3,2 mm between adjacent rows and lateral offset space of 6,4 mm between adjacent bristle columns. The bristle tufts shall be staggered in a 5-4-5-4-... pattern along the brush, with total of 59 tufts. The bristle count shall be (158 ± 6) tips·tuft⁻¹. See Figure 1.

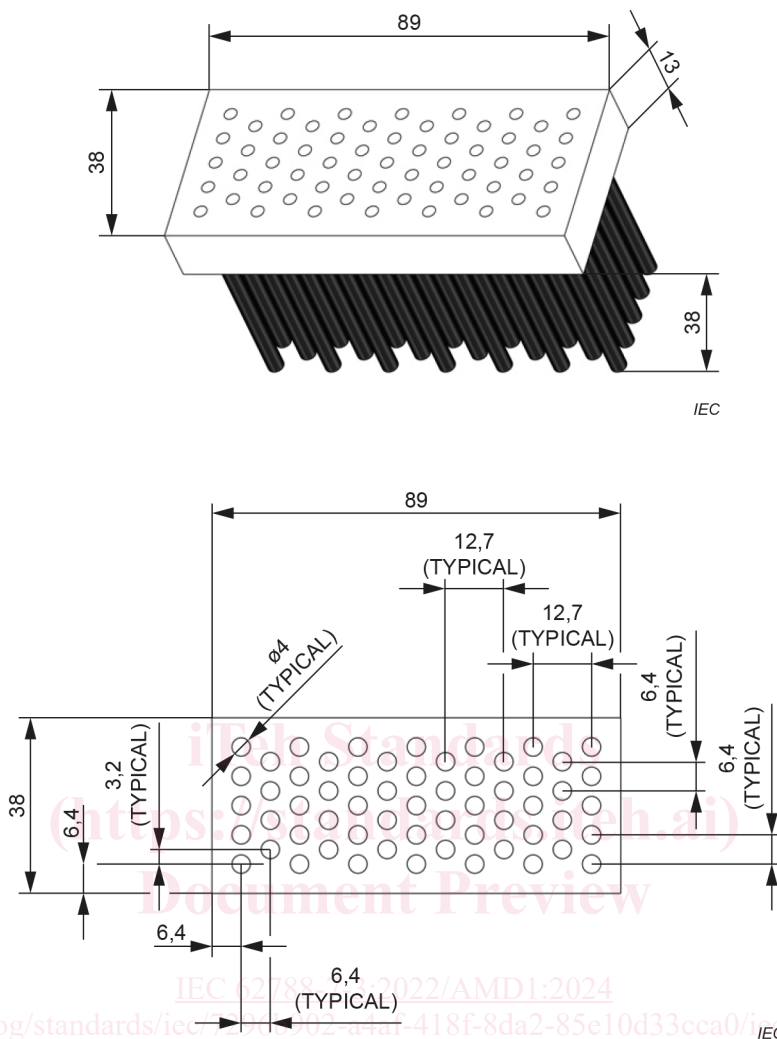


Figure 1 – Schematics showing the arrangement of bristle tufts on the linear brush

4.3.3 Reference material

Replace the existing text of subclause 4.3.3 by the following:

A reference material, which may be used to compare universally relative to the apparatus manufacturer or between laboratories, shall be used to verify proper operation of the abrasion tester, including the abrasive, abrasion apparatus, and the brush. The reference material shall be used before specimens are tested, including after instrument installation or setup and between test sessions. A reference material similar to the test specimen(s) is recommended and should be used through the same measurement session. See Table 1.

Table 1 – Examples of suitable reference materials

| Use | Description | Material | Manufacturer |
|--|--|-------------------|--------------|
| Default reference material, glass substrate or superstrate | Super-white modified soda-lime glass (DIN 52348) | B 270 "Superwite" | Schott AG |
| Hard thin film, monolithic silica substrate or superstrate | Technical glass | Borofloat 33 | Schott AG |
| Polymer substrate or superstrate | UV durable, solar grade bulk poly(methyl methacrylate) | Acrylite 0Z023 | Röhm AG |