

# INTERNATIONAL STANDARD

ISO  
8873

First edition  
1987-11-15



---

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION  
ORGANISATION INTERNATIONALE DE NORMALISATION  
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

---

## **Cellular plastics, rigid — Spray-applied polyurethane foam for thermal insulation of buildings — Specification**

*Plastiques alvéolaires rigides — Mousse de polyuréthane projetée utilisée dans l'isolation  
thermique des bâtiments — Spécifications*

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8873 was prepared by Technical Committee ISO/TC 61, *Plastics*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Cellular plastics, rigid — Spray-applied polyurethane foam for thermal insulation of buildings — Specification

## 1 Scope and field of application

**1.1** This International Standard specifies the requirements and test methods for spray-applied rigid polyurethane cellular plastics as defined in clause 3, used as thermal insulation in buildings, when applied either "on site" or in a manufacturing facility. It is not applicable to single-component moisture-cured materials.

**1.2** This International Standard applies to rigid polyurethane foam, RC/PUR-SA<sup>1)</sup>, spray-applied directly to the surfaces that are to be insulated, for the following applications:

**Category I** — Suitable for non-loadbearing insulations, which may or may not be exposed to weather, such as wall insulations, interior roof insulations and similar applications where the insulation is only required to be self-supporting.

**Category II** — Suitable for limited loadbearing insulations, intended for surfaces carrying foot-traffic by maintenance personnel only, mainly exposed to weather, such as overdeck insulations or similar applications where elevated temperatures may be encountered and when compressive creep resistance is required.

**1.3** The properties of spray-applied polyurethane cellular plastics may vary substantially depending on factors such as application technique, relative humidity, temperature and type of substrate, temperature of the liquid components and ambient temperature at the time of application. This International Standard therefore specifies only basic limiting values for selected properties, which may be used in quality control of the materials produced in accordance with this International Standard and for conformity control of the specified cellular material, if the samples are produced on site (*in situ*) or under the actual conditions of the site.

The limiting values are not given for the purpose of providing design data.

**1.4** Additional factors not covered by this International Standard, but which prudent designers and specifiers should consider, are the following (but are not limited to them):

- vapour barriers when service temperatures are generally below ambient<sup>2)</sup>;
- fire-protective coatings to meet national or local regulations;
- weather-resistant coatings when applications require them;
- the necessity to follow the instructions of the supplier (of the raw material) and other advice or regulations pertaining to the safe use of the raw materials and their safe application, so as not to endanger the health and safety of the workers and others in the immediate area.

## 2 References

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*.

ISO 472, *Plastics — Vocabulary*.

ISO 844, *Cellular plastics — Compression test of rigid materials*.

ISO 1663, *Cellular plastics — Determination of water vapour transmission rate of rigid materials*.

ISO 2581, *Plastics — Rigid cellular materials — Determination of "apparent" thermal conductivity by means of a heat-flow meter*.

ISO 2796, *Cellular plastics, rigid — Test for dimensional stability*.

ISO 4590, *Cellular plastics — Determination of volume percentage of open and closed cells of rigid materials*.

1) RC denotes rigid cellular; SA denotes spray-applied.

2) The application of a suitable vapour barrier is recommended when this material is used where the service temperatures are generally below ambient. Depending upon use, other weather-resistant coatings may be necessary.