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Rakennustuotedirektiivin (89/106/EEC) artiklan 10,  
neuvoston direktiivi 21. joulukuuta 1988, mukaisesti  
notifioitu tuotehyväksyntälaitos

EOTAN JÄSEN

## Eurooppalainen tekninen hyväksyntä ETA-08/0018

### European Technical Approval

**Kauppanimi:**

Trade name

**ICYNENE joustava solumuovilämmöneriste**  
**ICYNENE soft foam insulation**

**Hyväksynnän haltija:**

Holder of approval:

**Icynene Inc.**  
**The Icynene Insulation System**  
**6747 Campobello Road**  
**Mississauga, Ontario, Canada L5N 2L7**

**Tuotetyyppi ja sen käyttötarkoitus:**

Generic type and use of construction  
product:

**RAKENNUSTEN LÄMMÖN- JA ÄÄNENERISTE**  
**THERMAL AND ACOUSTIC INSULATION FOR**  
**BUILDING**

**Voimassaoloaika:**

Validity from/to

**29.02.2008**  
**28.02.2013**

**Valmistuspaikka:**

Manufacturing plants:

Icynene Inc. 6747 Campobello Road  
Mississauga, Ontario, Canada L5N 2L7

**Tämä hyväksyntä sisältää**

This European Technical Approval  
contains

sivuja/liitteitä

6 sivua, ei liitteitä

pages/annexes

6 pages including no annexes



Eurooppalainen tekninen hyväksyntäorganisaatio  
European Organisation for Technical Approvals

## I LEGAL BASES AND GENERAL CONDITIONS

1. This European Technical Approval is issued by the VTT Technical Research Centre of Finland in accordance with:
  - Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of Member States relating to construction products<sup>1</sup>, modified by the Council Directive 93/68/EEC<sup>2</sup> and Regulation (EC) N° 1882/2003 of the European Parliament and of the Council<sup>3</sup>,
  - Laki rakennustuotteiden hyväksynnästä (230/2003) luvut 3 ja 10, Ympäristöministeriön asetus rakennustuotteiden hyväksynnästä 3 § sekä Ympäristöministeriön 14.10.1997 antama valtuutus päätös (12/352/94),
  - Common Procedural Rules for Requesting, Preparing and the Granting of European Technical Approvals set out in the Annex of Commission Decision 94/23/EC<sup>4</sup>;
  - CUAP for European Technical Approval of "Soft foam insulation", edition October 2007.
2. The Technical Research Centre of Finland (VTT) is authorised to check whether the provisions of this European Technical Approval are met. Checking may take place in the manufacturing plant(s). Nevertheless, the responsibility for the conformity of the products to the European Technical Approval and for their fitness for the intended use remains with the holder of the European Technical Approval.
3. This European Technical Approval is not to be transferred to manufacturers or agents of manufacturer other than those indicated on Annex 1; or manufacturing plants other than those indicated on page 1 of this European Technical Approval.
4. This European Technical Approval may be withdrawn by the Technical Research Centre of Finland (VTT) pursuant to Article 5 (1) of the Council Directive 89/106/EEC.
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6. The European Technical Approval is issued by VTT in English. This version corresponds to the version circulated within EOTA. Translations into other languages have to be designated as such.

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<sup>1</sup> Official Journal of the European Communities N° L 40, 11.2.1989, p. 12

<sup>2</sup> Official Journal of the European Communities N° L 220, 30.8.1993, p. 1

<sup>3</sup> official Journal of the European Union N° L 284, 31.10.2003, p. 25

<sup>4</sup> Official Journal of European Communities N° L 17, 20.1.1994, p. 34

## **II SPECIFIC CONDITIONS OF THE EUROPEAN TECHNICAL APPROVAL**

### **1. Definition of the product and intended use**

#### **1.1 Definition of the construction product**

Soft foam insulation is low density open cell insulation. The insulation is sprayed or injected. It is produced by mixing the components resin and polyisocyanate components together.

#### **1.2 Intended use**

The product is intended to be used in walls, partitions, floors, intermediate floors and ceilings as thermal and acoustic insulation. The insulation can be used in constructions where it is not exposed to wetting, weathering, heavy moisture transport, condensation or long term compression.

The provisions made in this ETA are based on an assumed working life of the thermal insulation of 50 years provided that the conditions laid down in this section and sections 4.2/5.1/5.2 for the packaging, transport, storage, installation, use maintenance and repair are met. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

## 2. Characteristics of product and methods of verification

The methods of verification and characteristics of the thermal insulation evaluated in this ETA are as follows:

CUAP Paragraph	Characteristic	Assessment of the characteristic
	<b>ER1 Mechanical resistance and stability</b>	
2.4.1	Corrosion developing capacity on metal constructions	White corrosion and perforations in 0,075 mm thick zinc foil in contact with insulation in humid 90 – 95 % RH and warm conditions  No perforations in 0,075 mm thick copper foil in contact with insulation in humid 90 – 95 % RH and warm conditions
	<b>ER2 Safety in case of fire</b>	
2.4.2	Reaction to fire (insulation) Reaction to fire (insulation, 100 mm, inside the structure of 12 mm gypsum boards, timber studs , 50x 100 mm, construction)	Class F (tested)  Class <b>B-s1,d0</b>
	<b>ER 3 Hygiene, health and environment</b>	
2.4.3	Content and release of dangerous substances	No dangerous substances *) No flame retardants or biocides
2.4.4	Water absorption, EN 1609	<b>0,3 kg/m<sup>2</sup></b>
2.4.5	Water vapour permeability, EN 12086 $\mu$ -value	<b>1,13 x 10<sup>-9</sup>kg/msPa</b> <b>3,3</b>
2.4.6	Susceptibility to mould growth, CUAP Annex B	<b>Rating 0 (without spore addition)</b> <b>Rating 0-1 (with spore addition)</b>
	<b>ER 4 Safety in use</b>	Not relevant
	<b>ER 5 Protection against noise</b>	
2.4.7	Dynamic stiffness, EN 29052-1 Compressibility, EN 12431	<b>4, 3 – 8,4 MN/m<sup>3</sup></b> <b>- 54 %</b>
	<b>ER 6 Energy economy and heat retention</b>	
2.4.8	Thermal conductivity, $\lambda$ DECLARED, EN 12667 and EN ISO 10456	<b>0,038 W/mK ( density 8,3 kg/m<sup>3</sup> )</b>
2.4.9	Compressive strength at 10 % deformation, EN 826	<b>6,7 kPa</b>
2.4.10	Tensile strength parallel to faces, EN 1068	<b>7,4 kPa</b>
2.4.11	Delamination strength, EN 1067	<b>17 kPa</b>
2.4.12	Dimensional stability (length/width/thickness), EN 1064 +70 °C, 90 %RH +23 °C, 75 %RH - 30 °C	<b>- 0,5/- 0,5/+ 0,6 %</b> <b>+ 0,03/+ 0,02/- 0,1 %</b> <b>+ 0,02/+ 0,01/- 0,1 %</b>
	<b>Related aspects of serviceability</b>	
	Air permeability, EN 29053	<b>7,6 x 10<sup>-9</sup> m<sup>3</sup>/(m s Pa)</b>

\*In addition of the specific clauses relating to dangerous substances contained in this European Technical Approval, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the Construction Products directive, these requirements need also to be compiled with, when and where they apply.

### **3. Evaluation and attestation of conformity and CE marking**

#### **3.1 System of attestation of conformity**

According to the decision 99/91/EC of 25.01.1999 of the European Commission the system 3 of attestation of conformity applies, since there is no improvements of the reaction to fire classification in the production process.

This system of attestation of conformity is defined as follows:

System 3: declaration of conformity of the product by the manufacturer on the basis of:

- (a) Tasks for the manufacturer:
  - (1) Factory production control,
  - (2) Testing of samples taken at the factory in accordance with the prescribed test plan
- (b) Tasks for the notified body:
  - (3) Initial type testing of the product

#### **3.2 Tasks for the manufacturer**

##### ***3.2.1 Factory production control***

The manufacturer continues to operate a factory production control system. Quality control checks are made on incoming materials, and at regular stages throughout the production sequence to ensure the quality and fitness for use of the product.

VTT Technical research centre of Finland maintains a file describing the tasks and tests imposed on ETA holder. The file includes information of the main raw materials and "Control plan" which include the type and frequency of the manufacturers factory production control agreed between approval holder and VTT:

The results of factory production control shall be recorded and evaluated in accordance with the provisions of the "Control plan".

##### ***3.2.2 Initial type testing of the product***

For initial type testing the results of the tests performed as part of the assessment for this European Technical Approval shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between VTT and the manufacturer.

#### **3.3 CE-marking**

The CE-marking shall be affixed on the each packaging or on the delivery tickets put into the packages. The symbol "CE" shall be accompanied by the following additional information:

- Name of the product: Commercial trade name as indicated in this ETA
- Name and address of the ETA holder (legal entity responsible for the manufacture)
- The last two digits of the year in which the CE marking was affixed
- The number of the European Technical Approval, ETA 08/0018
- Declared and most essential properties according to paragraph 2 of this ETA

## **4. Assumptions under which the fitness of the product for the intended use was favourably assessed**

### **4.1 Manufacturing**

Manufacturing of the soft foam thermal insulation is based on the defined production method, use of defined raw materials and tolerances. If changes take place, the manufacturer is responsible to clarify if the change has influence on the properties of the product tested according to the provisions of this CUAP.

The European technical approval is issued for the product on the basis of agreed data/information, deposited with VTT, which identifies the product that has been assessed and judged. Changes to the product or production process, which could result in this deposited data/information being incorrect, should be notified to VTT before the changes are introduced. VTT will decide whether or not such changes affect the approval and consequently the validity of the CE marking on the basis of the approval and if so whether further assessment or alterations to the approval shall be necessary.

### **4.2 Installation**

The thermal insulation is installed on to the building according to the instructions of the manufacturer. The suitability of the insulation to the planned purpose shall be evaluated taking into account what has been said in chapter 1.2.

## **5. Indications to the manufacturer**

### **5.1 Packaging transport and storage**

The insulation products are transported to the building site in barrels. The products components shall be stored at temperatures between +10 - +30 °C before the installation.

### **5.2 Use, maintenance and repair**

The thermal insulation shall work adequately when the construction where it is installed according to the instructions of the manufacturer is maintained and repaired so that the provisions of use given in chapter 1.2 of this ETA are fulfilled.

On behalf of VTT Technical Research Centre of Finland

Espoo 29.02.2008



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