

## THERMAL CERAMICS

ENVIRONMENTAL AND HEALTH DECLARATION  
ACCORDING TO THE FRENCH STANDARD  
NF P 01 – 010

**EXPANDED PERLITE BOARD (EPB)  
NON-COATED  
DOUBLE OFFSET  
THICKNESSES 20, 25, 30, 35, 40, 40(2x20), 50,  
60, 70, 80, 90, 100, 110 and 120 mm  
LOOSE-LAID  
or  
MECHANICALLY FIXED**

N° Sitek: E-FDES 08-007  
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This FDES is issued by Thermal Ceramics – Sitek Division

*The presentation model used for this declaration is the « Fiche de Déclaration Environnementale et Sanitaire » established by the AIMCC – French Construction Products Industry Association (FDE&S version 2005)*

## INTRODUCTION

The aim of this declaration is to provide building professionals with the environmental and health characteristics of non-coated Expanded Perlite Board (EPB) of the following thicknesses : 40 (2x20), 50, 60, 70, 80 mm, with double offset, whose installation on the building site can be loose-laid or mechanically fixed. In order to simplify the presentation and the reading, we will use uncoated 50 mm thick EPB board as a reference.

The model used for the presentation of the following declaration is the « Fiche de Déclaration Environnementale et Sanitaire » established by the AIMCC – French Construction Products Industry Association (FDE&S version 2005).

This file is a common framework for all building products. It is adapted to the presentation of environmental and health characteristics of building products in compliance with the demands of the French standard NF P 01-010 and to the supply of additional comments and information in the spirit of the standard as concerns sincerity as well as transparency (NF P 01-010 § 4.2).

An accompanying report of the declaration was established. It can be consulted under a confidential agreement at the THERMAL CERAMICS head office, SITEK division.

This environmental and health declaration file is registered in the « FDE&S » program managed by the AFNOR under the reference n° 12-013 : 2008.

### **Data producer (NF P 01-010 § 4).**

The information in this declaration is provided under responsibility of the industrial manufacturer of Expanded Perlite Board (EPB), THERMAL CERAMICS, under the standard *NF P 01-010 § 4.6*.

The non-coated Expanded Perlite Boards are commercialised under the names: FESCO C-DO

This present file is an individual one based on the data supplied by THERMAL CERAMICS. It was checked by an independent third party (AFNOR certified assessors).

## Use of the FDES

Only THERMAL CERAMICS and its clients, with the company's agreement, may claim authorship of this file.

Any use, complete or partial, of the information supplied herein must be accompanied by, at least, the complete reference to the original declaration: « Full title, release date, issuer's address », (issuer who may provide an original copy).

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## READING GUIDE

### Where to find the information

This FDES includes two parts:

- **The environmental and health summary**

This summary presents, in a synthetic manner, the main environmental and health characteristics of the EPB board which is the object of the FDE&S:

- **The FDE&S itself**

It supplies the justifications and the calculation of information given in the summary as well as further data whose reading is recommended.

### Presentation of results in figures

Values lower than the millionth of a unity are not displayed; they were nevertheless taken into account in the impacts calculations (cf. accompanying report).

Deleted values are reported by an empty cell; when the result of the inventory is null, the value zero (0) is reported.

Values higher than the ten thousandth of unity are displayed with 3 significant digits.

## ENVIRONMENTAL AND HEALTH SUMMARY

### IN COMPLIANCE WITH NF P 01-010

### FDES PUBLISHED DECEMBER 2008

#### Characterisation of the product

##### ▪ Definition of the Functional Unit (FU) :

One (1) m<sup>2</sup> of non-coated expanded perlite board (EPB) 40 (2x20), 50, 60, 70 or 80 mm thick with double offset, mechanically fixed or loose-laid, giving the surface to which it is applied the function of a support for waterproofing membrane, an improvement in fire resistance and traffic resistance, as well as an additional thermal resistance from 0.80 to 1.60 m<sup>2</sup>.K/W depending on the thickness, during one annuity.

Included are:

- The distribution packaging
- The following complementary products: *metal fastener (1 fastener is composed of the following elements: screw + metal plate)*
- Off-cut rate during installation: 3 %

##### ▪ Typical Total Lifetime: 60 years

##### ▪ Technical characteristics not included in the FU: compressibility class, reaction and resistance to fire

##### ▪ Content (according to AIMCC n° 3-07) :

Main constituents:

- *Expanded Perlite: 60 %*
- *External recycled waste: 30 %*
- *Miscellaneous additives: 10 % none of which are dangerous substances (Dir. 67/548) class T+, T, N, Xn.*

##### ▪ Product's contribution to the evaluation of health risks and life quality within the buildings

Contribution of the product		Expression
To the evaluation of health risks	Health quality of indoor spaces	Radioactive emission: Dose excess of gamma radiation < 0,3 mSv/year. COV emission: non relevant Fibres and particles emission: non relevant Micro organisms and mould: non relevant
	Health quality of water	Non relevant
To the quality of life	Hygrothermal comfort	Thermal conductivity of the materiel EPB = 0,050 W/m.K ; Thermal inertia (summer comfort) : Cp > 900 J/kg and high density = 150 kg/m <sup>3</sup>
	Acoustic comfort	Acoustic reduction index of a 30 mm thick board (Rw) = 27 dB
	Visual comfort	Non relevant
	Olfactory comfort	Non relevant

▪ **Environmental indicators (total life span)**

N°	Environnemental impact	Values by FU for the total lifetime (60 years)					
		40mm (2x20)	50mm	60mm	70mm	80mm	Unit
1	Energy resources consumption:						
	Total primary energy	189	233	277	321	365	MJ
	Renewable energy	10,61	12,78	14,96	17,13	19,30	MJ
	Non-renewable energy	179	220	262	304	345	MJ
2	Natural material consumption	0,0650	0,0800	0,0949	0,1099	0,1249	kg equivalent antimony (Sb)
3	Total water consumption	82	96	111	126	141	litre
4	Solid waste:						
	Valued waste (total)	0,0910	0,0938	0,0966	0,0993	0,1021	kg
	Eliminated waste:						
	Dangerous waste	0,001236	0,001535	0,001833	0,002131	0,002430	kg
	Non dangerous waste	6,70	8,29	9,88	11,48	13,07	kg
	Inert waste	1,415	1,540	1,664	1,788	1,912	kg
	Radioactive waste	0,000466	0,000577	0,000689	0,000800	0,000912	kg
5	Climate change	8,91	10,96	13,01	15,06	17,11	kg equivalent CO <sub>2</sub>
6	Atmospheric acidification	0,0240	0,0292	0,0344	0,0396	0,0448	kg equivalent SO <sub>2</sub>
7	Air pollution	420	492	565	637	710	m <sup>3</sup>
8	Water pollution	16,38	20,23	24,07	27,92	31,77	m <sup>3</sup>
9	Stratospheric ozone layer destruction	0	0	0	0	0	kg CFC equivalent R11
10	Photochemical ozone formation	0,000995	0,001220	0,001446	0,001672	0,001898	kg equivalent ethylene

▪ **For further enquiries**

- INIES database: [www.inies.fr](http://www.inies.fr)
- FDES issuer: Thermal Ceramics