

THERMAL CERAMICS

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

**EXPANDED PERLITE BOARD (EPB)
BITUMEN COATED
THICKNESSES 20, 25, 30, 35, 40, 40(2x20), 50,
60, 70, 80, 90, 100, 110 and 120 mm
HOT BITUMEN BONDED**

N° Sitek: E-FDES 08-006
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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 bitumen coated Expanded Perlite Board (EPB) of the following thicknesses : 20, 25, 30, 35, 40, 40 (2x20), 50, 60, 70, 80, 90, 100, 110 and 120 mm, whose installation on the building site is to be effected by bonding with hot bitumen. In order to simplify the presentation and the reading, we will use bitumen coated 60 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 requirements 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 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° 12-012 : 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 bitumen coated Expanded Perlite Boards are commercialised under the names: FESCO S, FESCO C-S

This present file is an individual one established thanks to 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 Unit 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 Unit 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) m² of bitumen coated expanded perlite board (EPB) 20, 25, 30, 35, 40, 40 (2x20), 50, 60, 70, 80, 90, 100, 110 or 120 mm thick, bonded with hot bitumen 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 0,40 to 2,40 m².K/W depending on the thickness, during one annuity.

Included are:

- The distribution packaging
- The following complementary products: *bitumen for bonding*
- 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 (selon position 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. VOC 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 ³
	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 lifetime)**

N°	Environnemental impact	Values by FU for the total lifetime (60 years)														
		20mm	25mm	30mm	35mm	40mm	40mm (2x20)	50mm	60mm	70mm	80mm	90mm	100mm	110mm	120mm	Unit
1	Energetic resources consumption:															
	Total primary energy	172	194	216	238	260	269	313	357	401	445	498	542	586	629	MJ
	Renewable energy	4.57	5.65	6.74	7.82	8.91	10.69	12.86	15.03	17.20	19.37	23.33	25.50	27.67	29.84	MJ
	Non-renewable energy	168	188	209	230	251	259	300	342	384	425	475	516	558	600	MJ
2	Natural material consumption	0.0695	0.0770	0.0845	0.0920	0.0995	0.1027	0.1176	0.1326	0.1476	0.1625	0.1807	0.1957	0.2106	0.2256	kg équivalent antimoine (Sb)
3	Total water consumption	66	73	80	88	95	99	114	129	143	158	177	192	207	221	litre
4	Solid waste:															
	Valued waste (total)	0.0855	0.0869	0.0883	0.0897	0.0910	0.0910	0.0938	0.0966	0.0993	0.1021	0.1048	0.1076	0.1104	0.1131	kg
	Eliminated waste:															
	Dangerous waste	0.000681	0.000830	0.000979	0.001129	0.001278	0.001305	0.001603	0.001902	0.002200	0.002498	0.002824	0.003122	0.003420	0.003719	kg
	Non dangerous waste	4.82	5.62	6.42	7.21	8.01	8.20	9.80	11.39	12.98	14.58	16.36	17.95	19.55	21.14	kg
	Inert waste	0.301	0.363	0.425	0.487	0.549	0.651	0.775	0.899	1.024	1.148	1.374	1.498	1.622	1.746	kg
	Radioactive waste	0.000256	0.000312	0.000368	0.000423	0.000479	0.000487	0.000598	0.000710	0.000821	0.000933	0.001052	0.001164	0.001275	0.001386	kg
5	Climate change	5.40	6.42	7.45	8.47	9.50	9.97	12.02	14.07	16.12	18.17	20.69	22.74	24.79	26.84	kg equivalent CO2
6	Atmospheric acidification	0.0203	0.0229	0.0255	0.0281	0.0306	0.0328	0.0380	0.0431	0.0483	0.0535	0.0608	0.0660	0.0712	0.0764	kg equivalent SO2
7	Air pollution	241	277	313	349	386	428	501	574	646	719	834	907	979	1052	m³
8	Water pollution	11.19	13.11	15.04	16.96	18.88	19.32	23.17	27.01	30.86	34.71	38.99	42.83	46.68	50.53	m³
9	Stratospheric ozone layer destruction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	kg CFC equivalent R11
10	Photochemical ozone formation	0.000782	0.000895	0.001008	0.001121	0.001234	0.001269	0.001494	0.001720	0.001946	0.002171	0.002432	0.002658	0.002884	0.003109	kg equivalent ethylene

▪ **For further enquiries**

- INIES database: www.inies.fr
- FDES issuer: Thermal Ceramics