THERMAL CERAMICS

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

EXPANDED PERLITE BOARD (EPB)
NON-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 08-004
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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 : 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 non-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 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° 12-010 : 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, FESCO C, FESCO LT, FESCO GA.

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).

Exploitation of the FDES

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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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ENVIRONMENTAL AND HEALTH SUMMARY
IN COMPLIANCE WITH NF P 01-010
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Characterisation of the product

- **Definition of the Functional Unit (FU) :**

One (1) m^2 of non-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 m^2.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** (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 sanitary 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 material 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	155	176	198	220	242	252	296	339	383	427	480	524	568	612	MJ
	Renewable energy	4.52	5.61	6.69	7.78	8.86	10.64	12.81	14.98	17.16	19.33	23.28	25.45	27.62	29.79	MJ
	Non-renewable energy	150	171	192	212	233	241	283	324	366	408	457	499	540	582	MJ
2	Natural material consumption	0.0613	0.0688	0.0763	0.0837	0.0912	0.0944	0.1094	0.1244	0.1393	0.1543	0.1725	0.1875	0.2024	0.2174	kg equivalent antimony (Sb)
3	Total water consumption	61	68	76	83	91	94	109	124	139	154	172	187	202	217	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	0.000665	0.000814	0.000963	0.001113	0.001262	0.001289	0.001587	0.001885	0.002184	0.002482	0.002808	0.003106	0.003404	0.003702	kg
	Non dangerous waste	4.47	5.27	6.06	6.86	7.66	7.85	9.44	11.04	12.63	14.22	16.01	17.60	19.20	20.79	kg
	Inert waste	0.290	0.352	0.414	0.476	0.538	0.640	0.764	0.888	1.013	1.137	1.363	1.487	1.611	1.735	kg
	Radioactive waste	0.000250	0.000306	0.000362	0.000417	0.000473	0.000481	0.000592	0.000704	0.000815	0.000927	0.001046	0.001158	0.001269	0.001380	kg
5	Climate change	5.23	6.25	7.28	8.30	9.33	9.80	11.85	13.90	15.95	18.00	20.52	22.57	24.62	26.67	kg equivalent CO2
6	Atmospheric acidification	0.0184	0.0210	0.0236	0.0262	0.0287	0.0309	0.0361	0.0412	0.0464	0.0516	0.0589	0.0641	0.0693	0.0745	kg equivalent SO2
7	Air pollution	222	258	295	331	367	410	483	555	628	700	816	888	961	1033	m^3
8	Water pollution	10.46	12.38	14.31	16.23	18.16	18.59	22.44	26.28	30.13	33.98	38.26	42.11	45.95	49.80	m^3
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	0.000720	0.000833	0.000945	0.001058	0.001171	0.001206	0.001432	0.001658	0.001883	0.002109	0.002370	0.002596	0.002821	0.003047	kg equivalent ethylene

- **For further enquiries**

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