



ECOLOGICAL  
INSULATION

PROJECTED  
CELLULOSE

[www.greenpaint.pt](http://www.greenpaint.pt)

## PROJECTED OR INFLATED CELLULOSE



- It is a thermal insulating of cellulose fibers, manufactured through an optimized process for recycling newsprint paper. That is, the base material is wood which excellent qualities are already known since millennia.
- The selected newsprint paper is shredded raw, mixed with boric salts and then crushed. The borax salts protect from insect pests, mould and preserve it from decay, making it fire resistant.
- The production, through an own external control, is subject to the strictest quality criteria for technical approval in Germany, Austria and elsewhere in Europe. The long fiber flake convinces by its low coefficient of thermal conductivity and by its adherence, including for large thicknesses of insulation.
- It is not toxic, it does not contain any substances or additives that could be harmful and is soft and warm to the touch. It does not cause skin irritation, nor it is aggressive, and is therefore considered as an harmless insulating material.

# PROJECTED OR INFLATED CELLULOSE

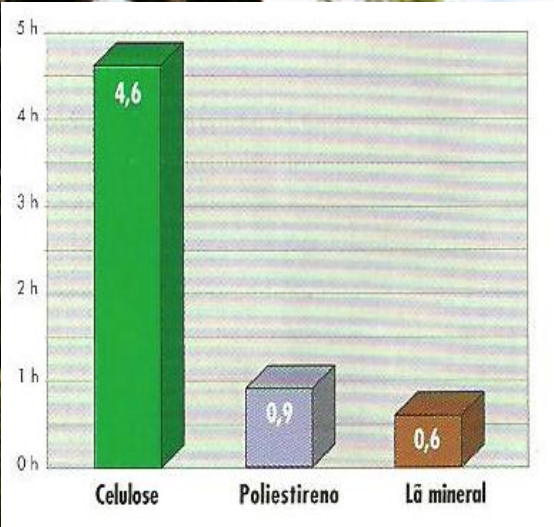


## PROJECTED OR INFLATED CELLULOSE

### APPLICATION SYSTEMS

- PROJECTED: This technique is used in enclosed interiors, between pillars, hidden ceilings and ceilings in sight. The projection is done in the damp, through a special gun that activates the adhesive properties of the cellulose fiber.
- INSUFLATED: Technique of insulation in cavities or void spaces. The cellulose fiber inflates the hollow space, forming an insulation free from joints, well established, and perfect fit.
- INSULATION IN MANTA (???): Used primarily for insulation in attics or plate type covers. The insulation is extended throughout the entire cover, mechanically, thus creating a continuous insulation without cuts.

## PROJECTED OR INFLATED CELLULOSE ADVANTAGES OF THE CELLULOSE INSULATION

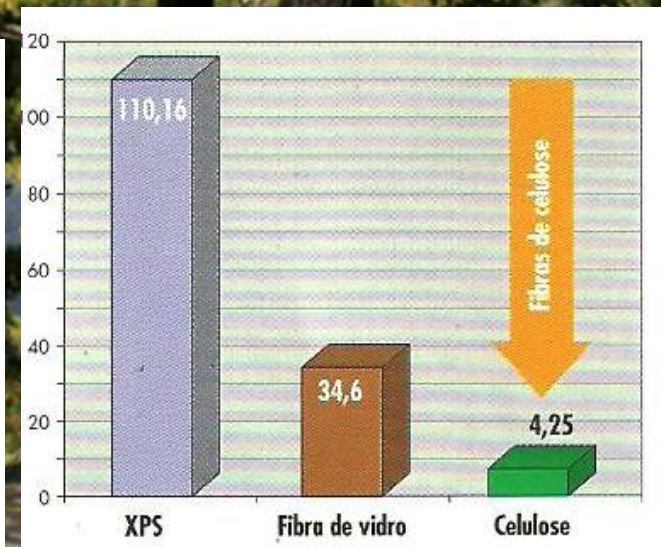


### HIGH TEMPERATURE PROTECTION

- High storage capacity of the cellulose insulation allows the heat from sunlight to penetrate in a clearly delayed manner, causing the facilities situated under the roof to remain fresh until the evening, so you can sleep without any discomfort.

### FIRE PROTECTION

- More and more is being consolidated the cellulose insulation over traditional insulation materials. This is what we found with fire protection tests done with great success with building materials of classes F30 to F90. With the classification EN B-s2-d0, the cellulose insulation achieves one of the highest values possible of flammable insulating materials.



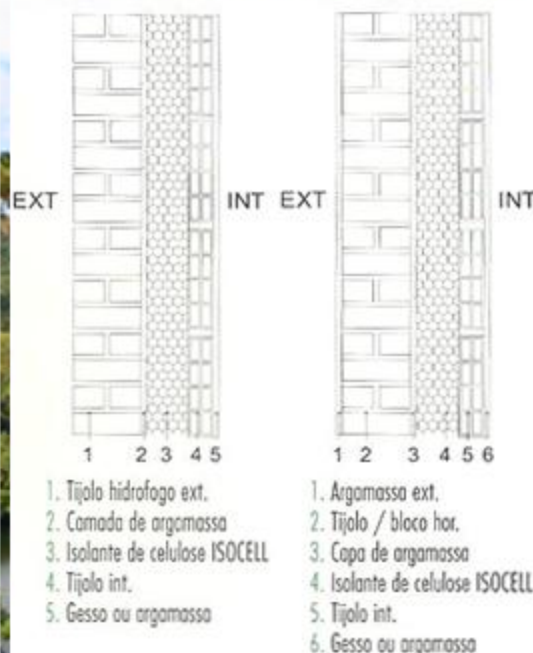
# PROJECTED OR INFLATED CELLULOSE TECHNICAL ELEMENTS

## Product Datasheet - Cellulose fiber

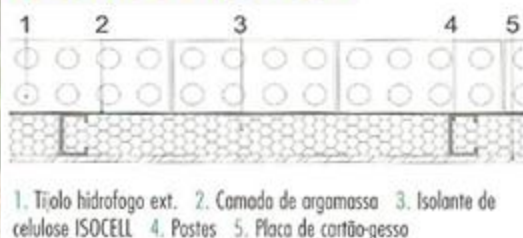
MATERIAL ISOLANTE DE FIBRA DE CELULOSE	
Denominação	Ácido bórico e pentahidrato de boro ou fosfato de amónio
Proteção Contra Incendios E Fungicida	
	<b>Áustria</b> <b>Alemanha</b>
Homologações	ETZ ETA - 06/0076 Z-23.11-1236
Comprovação externa de qualidade	MFA NRW
Densidades de montagem segundo homologação	
Livre à superfície	28 - 40 kg/m³
Em interior	38 - 65 kg/m³
Coefficiente de condutividade térmica $\lambda_d$ (valor de cálculo)	0,039 W/mK 0,040 W/mK
Comportamento ao fogo	100 mm / B - s2,d0 B2 s/ DIN 4102-1
	40 mm / E
Resistência à difusão do vapor de água	$\mu = 1$ $\mu = 1 - 2$
Resistência ao fluxo	A 30 kg/m³ $t = 5,3 \text{ kPa.s/m}^2$
	A 50 kg/m³ $t = 25,1 \text{ kPa.s/m}^2$
Humidade do material na entrega	Máx. 12 %
Absorção de água a 30 kg/m³	Wp = 15,20 kg/m²
a 65 kg/m³	Wp = 38,95 kg/m²
Espessura nom. na superfície até 25 cm	10 % de sobrelevação
Em superfície acima de 25 cm	15 % de sobrelevação
Assentamento à superfície 28 kg/m³	S = máx. 8 %
Em interior 38 kg/m³	S = 0 %
Código de resíduo	ASN 18407
	É autorizada a eliminação com ASN 91101
Controlos de qualidade próprios	
Densidade aparente	1 vez por semana
Assentamento	1 vez por semana
Absorção de humidade	1 vez por semana
Comportamento ao fogo	1 vez por semana
Capacidade térmica esp.	1,9 KJ/kg K
Energia primária de recursos não-renováveis PEI e MJ/kg	4,24 MJ
Energia primária de recursos renováveis PEI e MJ/kg	0,38 MJ
Potencial de efeito invernical GWP	0,23 kg CO <sub>2</sub> eq.
Potencial de hipersensibilização AP	2,44 g SO <sub>2</sub> eq.
Toxicologia	Segundo aditamento do Departamento clínico de medicina laboral (Áustria), devido ao baixo grau de exposição, não se constata nenhum risco para a saúde. Há que evitar o pó durante a montagem com o uso de máscaras de protecção.
Reemissão	Sempre que o material não esteja contaminado com outros.
Grav de absorção celulosa injectada	a S2 = 0,70 (M, A)

58/ 03.2008

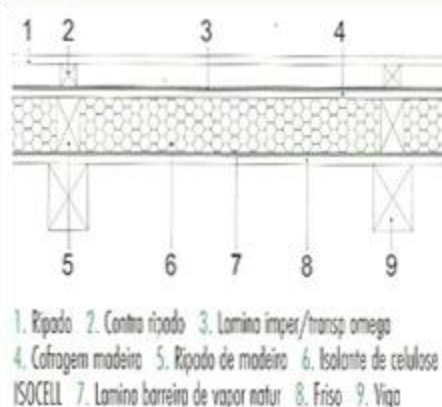
## Insulation in the wall



## Insulation between poles



## Insulation wood coverings



## Hidden beam coverage

