PST System

Main characteristics (technical specifications)

The PST system is a fire-retarding system to protect walls and structure. It consists of an insulating coat and a hardening agent.

The fire delay of the system is based on two superposing phenomena:

- The thermal conductivity factor of the coat has an insulating effect. The coat is stable beyond 1300°C and releases no toxic fume.
- The hardening agent vitrifies from 800 °C and provides a stable screen beyond 1400°C which reflects a large part of the heat radiations.

Can be washed: ☐ Low/medium/high pressure  Can be painted: ☐

Information on the composition

Insulating coat: Cement, mineral hollow charges
Hardening agent: Steel particles and suspension agent

Fire Test reports (cross the relevant boxes)

<table>
<thead>
<tr>
<th>ISO (1050°C 2h 1160°C 4h)</th>
<th>HC (1100°C, ref. EC1.1.2)</th>
<th>HCM (1300°C, HC*1300/100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RABT/ZTV (Germany) (1200°C)</td>
<td>RWS (1350°C)</td>
<td>Others:</td>
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</table>

Characteristics of the tested samples, report number and possible comments:

- TNO tests under RWS curve (VSH report No.200110993). Fire protection 2h and 3h
- CTICM tests fire protection 2 h and 3 h  (CTICM report No.97-U-473, 99-G-095, 00-G-344)
- CSTB tests fire protection 2 h  (CSTB report No.RS98-201 1)

Application procedures

| Insulating coat: Grey powder, cement and minerals mixture Mixing with 56% water Application on clean support by wet spraying, no rebound loss Thickness according to required protection, from 7 mm-50mm |
| Hardening agent: Ready-to-use liquid, grey, opaque, aqueous medium, solvent-free Proportioning 100 g.m² Application onto the insulating coat once hardened and dried, applied with brush, roll or gun. |

Board ☐ Mortar ☐

Present application field

Walls and segments.
Gutters, inspection ports and wall panels.
### Possible use in tunnels

Wall, ceiling and vault  
Steel ribs  
Moulded products: gutters and ports, wall panels

### Civil engineering works references

### Physical and thermal data

**Reaction to fire**  
(French/European classification): A1

**Main thermal data: (at 20°C and possibly variation with temperature)**

- Thermal conductivity \( \lambda \) (W.m\(^{-1}\).K\(^{-1}\)) = \(0.13\) à 25°C, \(0.15\) à 600°C
- 2 out of the 4 following values  
  1. Specific heat \( c \) (J. kg\(^{-1}\).K\(^{-1}\)) = \(1050\)
  2. Density \( \rho \) (kg/m\(^3\)) = \(800\)
  3. Volumic specific heat \( C \) (J.m\(^{-3}\).K\(^{-1}\)) = \(84000\)
  4. Diffusivity \( a \) (en m\(^2\).s\(^{-1}\)) = \(\lambda / \rho c =\)

**Resulting emissivity**  
(adimensionnal) : \(\varepsilon_{res} = 1,62 \times 10^{-7}\)

**Other thermal data:**  
Reflection coefficient (adimensionnal) : 0,5*  
Absorption coefficient (adimensionnal) : 0,5*

**Main mechanical data:**  
E modulus (MPa)=1840  
Compressive strength (MPa)= 0.5  
Tensile strength (MPa)= 0.5

**Complementary data:**  
Porosity :2%  
Shore hardness: 35 shore D  
Adherence(Mpa) >0.5

* coat covered with hardening agent

### Durability

PH : 13

### Product and company identification/Commercial name/ Applicators

**SECO-RAIL**  
Olivier JM Bouygues  
6 rue Emile Pathé  
78403 CHATOU  
FRANCE  
Tel :+ 33 130 09 83 11  
Fax :+33 130 09 83 59  
Mel : bouygues@seco-rail.com

Jean Luc Gandy  
RN 90 Les Marches  
73807 MONTMEILLAN CEDEX  
FRANCE  
Tel :+33 479 28 09 72  
Fax :+33 479 28 00 87  
Mel: gandy@seco-rail.com

### Documentation/References

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www.cetu.developpement-durable.gouv.fr