



AETERNUM FIRE

Firefighting plaster



DESCRIPTION

AETERNUM FIRE is a firefighting pre-mixed special plaster designed to resist to high temperatures.

With its low thermal conductivity, AETERNUM FIRE is the result of multiple tests performed both in the laboratory and on the site, consisting of a mixture of hydraulic binders appropriately balanced with highly insulating inorganic compounds and particularly resistant to high temperatures and thermal shocks.

If applied following the correct thickness (between 4.5 and 6 cm) AETERNUM FIRE remains structurally intact for over 120 minutes, in direct contact with the flames, at temperatures up to 1400 ° C.

The passive fire protection requires more comprehensive, safe and certified solutions.

In this regard, we ensure that not only each component, but also the entire compound, provides:

- effectiveness and continuity of fire protection;
- maximum protection under fire conditions.

The plaster is certified as class T1

FIELDS OF APPLICATION

AETERNUM FIRE is recommended for permanent fire protection.

AETERNUM FIRE is generally used as firefighting treatment for tunnels and galleries.

TECHNICAL SPECIFICATIONS

Status:	Heterogeneous powder
MV:	1,27 ± 0,03 g/cm ³

APPLICATION RACOMMANDATIONS

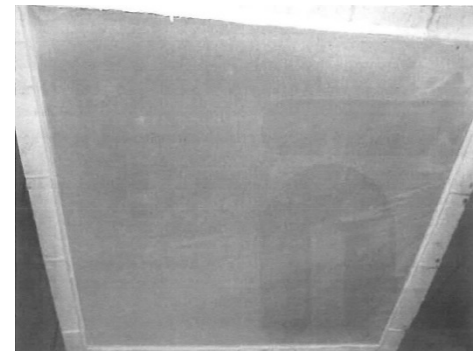
AETERNUM FIRE should be mixed following the dosage of:

20 Kg of product / 6-9 litres of water.

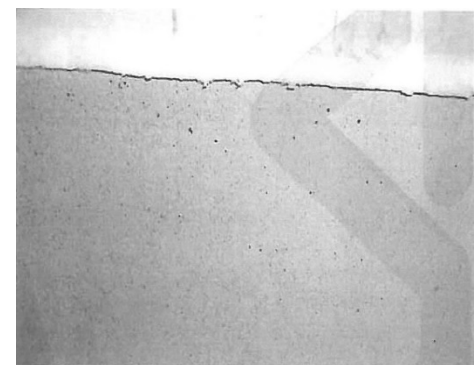
Mixing must be done using a whip drill or, even better, a mixer, until the dough is smooth and free of lumps, reaching a thixotropic consistency. The water amount obviously changes the rheology and thixotropic properties of the dough; the variation of the water amount depends on the cohesion that the plaster will have to obtain after being placed onto the vertical wall and on the substrate to which it will have to adhere; it must be added gradually.

The setting time as well as the temperature of the environment will depend also on the amount of water used. The dough, finally, must be applied with a mechanical coating machine and smoothed right after its setting.

Our technical team is at your disposal to advise the best dosage and conditions of use.



Exposed (protective) side
at the end of the test



Protective detail
at the end of the test



Electrowelded mesh fixing detail



CERTIFICAZIONI

AETERNUM FIRE is certified as firefighting product according to the legislation UNI 11076:2003 ("Test method for assessing the performance of protective devices applied to underground ceiling structures, under fire conditions") with classification **T1** with thickness of 6 cm.

Certificate n° 928.OUN0350/11 issued by LAPI, Laboratorio Prevenzione Incendi SPA (Laboratory of fire prevention), Prato (FI), Italy.

PACKAGING

Bags of 20 kg

STORAGE

If the product is stored in a place away from bad weather conditions, following a standard temperature and under controlled humidity, it will remain intact for 6 months from the date of purchase.

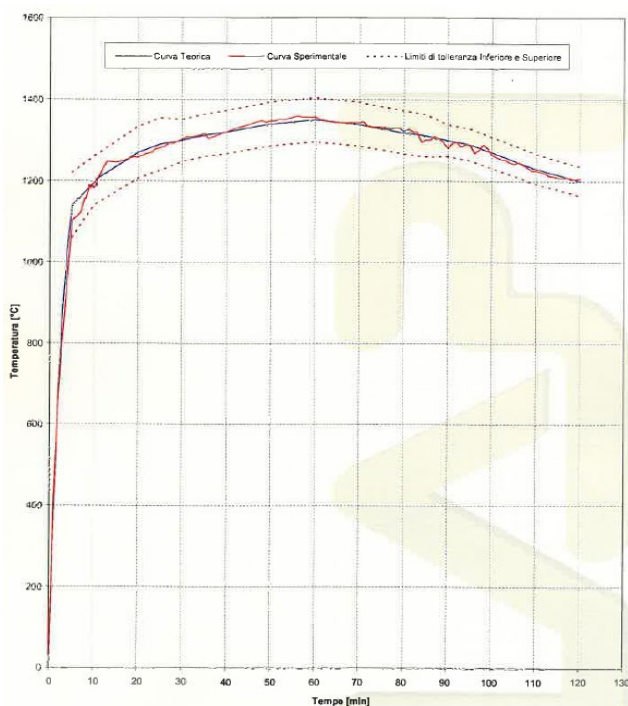
WARNINGS

The setting process is simple as it requires the same modalities of a normal cement-based mortar. Please store in a dry environment. In case of contact with eyes, rinse immediately with water.

AETERNUM FIRE does not contain any compounds that could be harmful to health; it does not contain asbestos or any of its compounds or fibers of any kind.

LEGAL NOTES

The information contained in this data sheet, while representing the most advanced stage of knowledge, does not exempt the user from careful preliminary tests in their employment conditions and exercise. We decline therefore every responsibility for the improper use of the product.



Theoretical and experimental heating curve

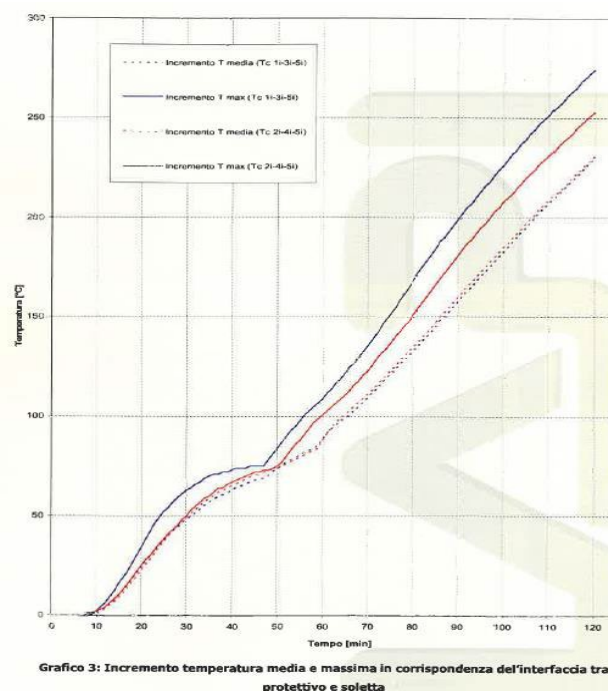


Grafico 3: Incremento temperatura media e massima in corrispondenza dell'interfaccia tra protettivo e soletta



TEMPERATURE VALUES REACHED BETWEEN SUPPORT AND AETERNUM FIRE

Interface between substrate and protective coating	ΔT_{med} (Tc 1i, 5i, 3i)	230
	ΔT_{max} (Tc 1i, 5i, 3i)	274
	ΔT_{med} (Tc 2i, 5i, 4i)	231
	ΔT_{max} (Tc 2i, 5i, 4i)	253

ΔT_{med} 230,5 °C << 330 °C

ΔT_{max} 274 °C << 380 °C

REGULATORY REFERENCES

Protective interface	T1	ΔT_{media} Diagonal	330
		ΔT_{max} Diagonal	380
Protective interface	T2	ΔT_{media} Diagonal	380
		ΔT_{max} Diagonal	420
Protective interface	T3	ΔT_{media} Diagonal	430
		ΔT_{max} Diagonal	460

TEMPERATURE VALUES REACHED AT 25 MM FROM THE INTRADOS OF THE SUPPORT SLAB

25 mm from the intrados of the normalized support slab, in correspondence of the electro-welded mesh	ΔT_{med} (Tc 1, 5, 3)	88
	ΔT_{max} (Tc 1, 5, 3)	102
	ΔT_{med} (Tc 2, 5, 4)	87
	ΔT_{max} (Tc 2, 5, 4)	89

ΔT_{med} 87,5 °C << 200 °C

ΔT_{max} 102 °C << 250 °C

REGULATORY REFERENCES

Position	Classification	Parameters	Limit [°C]
Electrowelded mesh	T1	ΔT_{media} Diagonal	200
		ΔT_{max} Diagonal	250
Electrowelded mesh	T2	ΔT_{media} Diagonal	250
		ΔT_{max} Diagonal	290
Electrowelded mesh	T3	ΔT_{media} Diagonal	300
		ΔT_{max} Diagonal	350



TEKNA CHEM S.p.A.

Headquarters: Renate (MB) - Via Sirtori, z.i. 20838 - Tel. +39 0362.91.83.11

Web: www.teknachemgroup.com - E-mail: info@teknachemgroup.com - Fax: +39 0362.91.93.96

