



THERMAL-ACOUSTIC INSULATION

30 YEARS OF ENERGY SAVING

LIFE AND REFERENCES OF TROCELLEN PRODUCTS



A GOOD PRODUCT CAN BE RECOGNISED BY THE LONG-TERM PRESERVATION OF ITS QUALITIES

The Project and the duration requirement

In all projects of the insulation and construction sectors, a guarantee of the product used is requested, and this pre-supposes a measure / technical evaluation of its characteristics over time.

Legal regulations attempt to approach reality by describing this behaviour through laboratory measurements by mathematic extrapolations of the measured value, or through simulations by submitting the material to accelerated ageing, in extreme conditions of temperature, and/or pressure.

They are necessary to support provisional calculations, especially in the absence of real data, when, in terms of application, product and legal regulations they are only in the initial stage.

However we should consider that they are based on conventional and mediated choices, and the real situation could be, case by case, slightly different.

Furthermore, they do not take into account installation, which significantly influence the performances of the final application, both after installation and long-term.

As we all know, on-site verifications are becoming more and more frequent, also spurred by modern laws and regulations.

This is an important step ahead toward the verification of the application's real performance, and also makes it possible to obtain information about its life and that of its components (by conveniently separating the contribution of the components: materials, type of structure and installation quality).

We, as producers, feel involved in this activity, with the intention of supplying the best technical support to our customers and designers, also because we are convinced that a good product can be seen in the preservation of its qualities through time.

...like a good wine, for instance.



TROCELLEN vintage

We are involved in many projects on an international scale too and this enables us to know many applications and make best use of our experience in support of experimental measures.

In the insulation and building sectors, these activities have developed in over 30 years, especially thanks to companies better known with the name Italkalor, Weiss Industriale, HT and Polifoam.

We can therefore affirm that some types of Trocellen products have exceeded 10 years of life in different situations: underground as an acoustic anti-vibration element for city tram lines; or in the extreme conditions of the desert or of Siberia, as a water shield in car doors. But how can we demonstrate that it has been used for more than 30 years to insulate canals and pipes to help the energy saving?

Information on the life of our products is almost always obtained from the feedback of our customers, but sometimes our presence on the market bears its fruit.

...an example for all:

1985 – Heating station insulated with Trocellen.

Twenty-three years ago Italkalor insulated the heating station of the hothouses of cooperative company “L’Ortofrutticola” of Albenga (Savona) by a plumber of Borghetto S. Spirito.

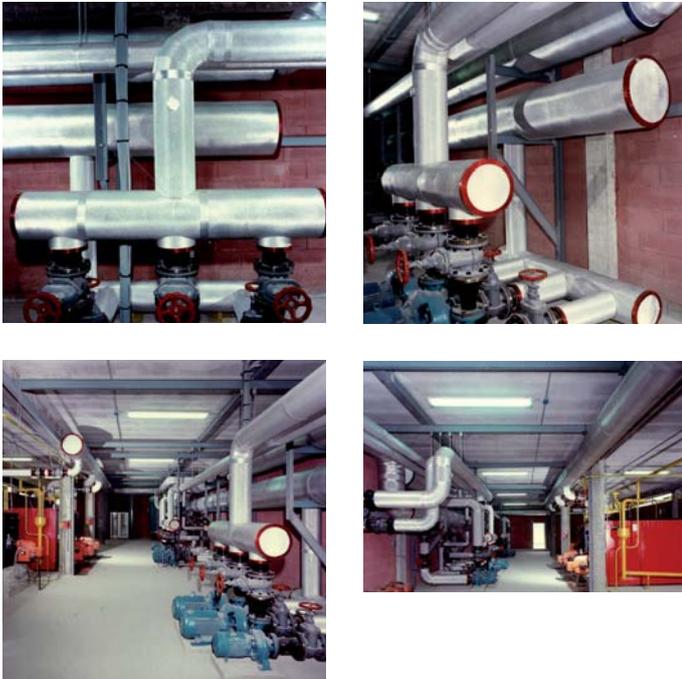


The zone's agent and technical assistance supervised all the stages, starting from the choice of the most suitable product through to installation. After performing its duty for 20 years, the activity of the heating station was stopped.

We had learned that it was possible to verify the quality of the insulation, still present in the system before complete putting out of service. We therefore went there to make an on-site inspection.

The product was TROCELLEN AL CL₁; The installed thicknesses were up to 50 mm.

1985



The general view shows clean, well-organized work performed by professionals, respecting the system insulation rules.

...even though today more attention would be given to valve insulation.



The metal finish, to make the surface scratch resistant, enhances the overall look and the brightness of the room.

...what the eye sees is also important!

23 years later



The insulation and finishes are still in place and able to perform their function.



A surface in good condition without any cracks

...despite time and dust.



TROCELLEN APPLICATION REFERENCES (ITALY)

The current condition of the system shows that the insulation was able to significantly exceed 23 years of effective use.

However the appearance could deceive. We therefore wanted to verify, in the laboratory, the thermal conductivity of the 23-year old product, comparing the data with those measured with the internal method and with instrumentation already in use in 1983.

Property	Unit	1983	2008
Thermal conductivity	W/mK	0,0394	0,0394

The value has not changed: this measurement is the effective proof of the long life of our product.

...here's another example:

We're talking about another laboratory analysis performed at FIW in Munich in 2003, on a three-year-old foam of our German plant, which had obtained the same lambda value as that when it was produced.

Extract of the certificate HT Troplast AG - 20.5.03

Based on the request of the market we investigate the change of the heat conductance additional by an independent Laboratory the FIW (München, Germany). The measurements were made in accordance to DIN 52 616.

We have tested an TROCELLEN RD 30 W3C F4 B1 in grey, 26mm. The first set of tests were done in September 1999. After the test the sample was stored indoor for 3,5 years. Then the same sample was tested twice at both laboratories again.

The thickness has been changed about 2% or 0,5 mm. The mass has been changed by 1% or 2 g. So here no relevant changes of the product can be found.

...

The scattering within the measuring of the different labs and the precision of the measuring is smaller than 5%.

So the effect of ageing within 3,5 years is clearly smaller than the precision of the determination of the heat conductance. So practically **no ageing or change of the heat conductance** can be found.

Conclusions

The above mentioned data supports the technical motives of the durability of **TROCELLEN** products, and enhances their application, ensuring the energy saving is in line with the project's goals.

HOTELS

- ALBERGO VITTORIA - SORRENTO (NA)
- HOTEL ITALIA / NH HOTELS - TIMISOARA (RO)

COMMERCIAL

- CENTRO COMMERCIALE "IL CASTELLO" - FERRARA
- CENTRO AGROALIMENTARE - BOLOGNA
- MAGAZZINI IPER MERCATO "LANDO",
1) MIRA (VE) - 2) ROSOLINA (RO)
- CENTRO COMMERCIALE "LA FATTORIA" - ROVIGO
- CENTRO COMMERCIALE "SMART" - GALLIERA VENETA (PD)
- CENTRO CALZATURE "PITTARELLO" - VIENNA
- TACCONI SPORT (SPORT WEAR) - MARCON (VE)
- SUPERMERCATO "DO-GAL" - SCORZÈ (VE)
- CENTRI "COOP" 1) CASCINA (PI) - 2) LASTRA A SIGNA (FI)
3) PERUGIA
- CENTRO COMMERCIALE "LE VELE" - SOVERATO (CZ)
- CENTRO COMMERCIALE "A.Z." - CATANZARO

HOSPITALS

- OSPEDALE "BEL COLLE" - VITERBO
- OSPEDALE ONCOLOGICO "S. RAFFAELE" - ROMA
- NUOVO "POLO OSPEDALIERO" - S. BONIFACIO (VE)
- OSPEDALE "S. CAMILLO" - ROMA
- OSPEDALE "MADONNA DELLE GRAZIE" - MATERA
- OSPEDALE "DI S. GIOVANNI ROTONDO" - FOGGIA
- OSPEDALE CIVILE DI CASSINO - FROSINONE
- OSPEDALE CIVILE DI CASERTA, REP. CARDIOCHIRURGIA
- CLINICA "VILLA SERENA" - CATANZARO
- AMPL. OSPEDALE CIVILE DI AVELLINO
- OSPEDALE DI VARESE "OPERA MACCHI"
- ISTITUTO F.I.R.C. FEDERAZIONE ITALIANA RICERCA CANCRO MILANO
- OSPEDALE "CAREGGI" - FIRENZE
- OSPEDALE UNICO DI TODI - MARSCIANO
- OSPEDALE DI PISA

INDUSTRIAL

- INDUSTRIA FARMACEUTICA (EX CIBA GEIGY) "NOVARTIS" TORRE ANNUNZIATA (NA)
- INDUSTRIA "BENETTON" STAB. CASTRETTE DI PONZANO (TV)
- INDUSTRIA ALIMENTARE "ROVAGNATI" - VILLASANTA (MI)
- INDUSTRIA FARMACEUTICA "ASTRA ZENECA" CAPONAGO (MI)
- INDUSTRIA "BOSCH" STABILIMENTO DI BARI
- D.S.M. STABILIMENTO - CAPUA (CE)

MILITARY

- "BASE AEREA NATO" - SIGONELLA (CT)
- "BASE AEREA NATO" - AVIANO (PN)
- AEREOPORTO "PRATICA DI MARE" - ROMA
- AEREOPORTO MILITARE "AMENDOLA" - FOGGIA

OFFICES

- NUOVA SEDE BANCA "MONTE DEI PASCHI" - SIENA
- UFFICI FINANZIARI 2000 - COSENZA
- PALAZZO MOTORIZZAZIONE CIVILE - ROMA

SCHOLASTIC

- UNIVERSITÀ, FACOLTÀ DI ECONOMIA E COMMERCIO, PARMA
- UNIVERSITÀ, FACOLTÀ INGEGNERIA - NAPOLI
- UNIVERSITÀ, "FACOLTÀ ARCHITETTURA PALERMO"
- CAMPUS BIO-MEDICO DI TRIGORIA - ROMA

RESIDENTIAL

Many houses have been insulated with Trocellen products as from 1998, the year when the acoustics decree came into force.



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