

***BM TRADA Certification Ltd
Registration Certificate***



Certificate Number 0102

03 April 2006

Date of Initial Registration

03 April 2006

Date of Current Issue

02 April 2009

Date of Expiry

*This is to certify that the Building Insulation Product known as TRISO SUPER 10
manufactured by the following company:*

ACTIS SA

Avenue de Catalogne

11300 Limoux

France

and distributed in the UK by:

ACTIS INSULATION Ltd

Unit 1 Cornbrash Park, Bumpers Way

Bumpers Farm Industrial Estate

Chippenham

Wiltshire SN14 6RA

*meets the requirements of the BM TRADA Building Insulation Product Scheme which
incorporates parts of the UK Building Regulations 2006 relevant to the use of the TRISO
SUPER 10 Product for use in roof construction, as detailed in the accompanying
Schedule, and is registered within the BM TRADA Certification Scheme for
Building Insulation Products*

*As a scheme member the company agrees to maintain the fabrication and design of its TRISO SUPER 10 product in
accordance with the BM TRADA Certification Scheme and to use the Q-Mark in accordance with the Scheme
Regulations*

A handwritten signature in blue ink, appearing to be "C. Long", written over a horizontal line.

Signed on behalf of BM TRADA Certification Ltd

For verification of this certificate please visit www.bmtrada.com

1/14/1 issue September 2000. This certificate remains the property of
BM TRADA Certification Ltd. to whom it must be returned on request.



The use of the accreditation mark indicates accreditation in respect
of those activities covered by the accreditation certificate 012.

Registration Schedule

Certificate Number 0102

It is a requirement in new build construction that a breathable roof underlay be incorporated into the roof above the TRISO SUPER 10 insulation rather than a felt or a plastic type underlay. A breathable roof underlay is here defined as one which has a water vapour transmission resistance not exceeding 0.6 MNs/g.

Durability

Long term durability of TRISO SUPER 10 was assessed by visual examination of the insulation product and similar reflective insulation products produced by ACTIS SA in existing installations in roofs in France. The assessment was carried out by TRADA Technology and included visual inspection of the insulation products and the associated timber roof structural members and ancillary components. The installations assessed had been in the buildings for up to 18 years.

It was confirmed that all products assessed were made of similar components to TRISO SUPER 10.

All insulation products and associated components were found to be in good condition after up to 18 years in service in roof spaces. On this evidence, there is no reason to suppose that, under normal service conditions, TRISO SUPER 10 should not remain in a good condition for the design life of the building.

Thermal Insulation

The roof insulating material TRISO SUPER 10 manufactured by ACTIS SA has been tested at the ACTIS Research and Development site at Limoux, France, and at the TRADA Technology site in High Wycombe, UK. The aim of the testing was to compare the insulating properties of TRISO SUPER 10 with mineral wool (glass) in full scale roof test rigs and real internal / external conditions, following the building methods generally used in the UK.

On each site, two identical chalets of a total un-insulated roof surface of approximately 41m² (26 m² on the two slopes plus 15m² on the two gable walls), were lined with TRISO SUPER 10 and mineral wool (glass) of 200mm in thickness respectively and were heated and maintained at an average target temperature of 23°C. The energy consumption for heating each chalet was recorded and results were compared. Temperature and humidity conditions inside each chalet were continuously monitored and weather conditions at each site were also recorded.

Following the testing and assessment work undertaken in Limoux, France and in High Wycombe, UK TRADA Technology is able to make the following comments:

- The construction of the test chalets, the instruments used for measuring and recording physical values, the trial methodology and rigour of the testing and calibration procedures on both sites were considered to be suitable for comparative testing of the ACTIS roof insulating product TRISO SUPER 10 and mineral wool insulation.
- It was identified during the testing programme that at both test sites under certain weather conditions TRISO SUPER 10 out-performed mineral wool.

Registration Schedule

Certificate Number 0102

- A mathematical model was used to predict the behaviour of insulated structures under a variety of weather conditions. Data from both UK and French sites were used to calibrate the model for the specific test conditions and the model was found to be able to reliably predict the power consumption of each chalet under different weather conditions.
- The model was used to predict the power consumption of test chalets in a number of sites around the UK using weather data originating from the UK Met Office. The sites were selected to be representative of the UK as a whole.
- An assessment was conducted based on the results of the modelling to assess the relative performance of TRISO SUPER 10 with mineral wool under different conditions.
- The overall conclusion of the assessment is that when TRISO SUPER 10 is used as specified in the manufacturer's "Fixing Instructions" ("Product and Application Guide ref. PZ182 and Technical Data sheet ref PZ177") it has insulating properties equivalent to mineral wool (glass) of 210mm in thickness.

Condensation Control

Current British Standard and European condensation risk calculations are not able to take accurate account of multi-layer reflective insulation products such as TRISO SUPER 10.

Empirical condensation risk was therefore assessed as part of the long-term durability assessment carried out by TRADA Technology.

There was no evidence of condensation or water damage recorded during the durability assessment. On this evidence, the condensation risk in roofs with correctly installed TRISO SUPER 10 is considered minimal.

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Establishments	Address	Number
ACTIS SA (HQ)	Avenue de Catalogne 11300 Limoux France	042/1610
ACTIS INSULATION Ltd (UK)	Unit 1 Combrash Park, Bumpers Way Bumpers Farm Industrial Estate Chippenham Wiltshire SN14 6RA Tel: 01249 446123 Fax: 01249446345	

TRISO SUPER 10

TRISO SUPER 10 is a multi-layer insulation material which consists of 19 alternating layers of foams, wadding and reflective films with a total uncompressed thickness of approximately 30mm. It is supplied rolled or folded in units of 10 m² (6.25m x 1.60m) and 20 m² (12.50m x 1.60m).

TRISO SUPER 10 has been assessed for its suitability for use in roof construction by TRADA Technology Limited and is considered to meet the minimum requirements of the building regulations in the UK. It is pre-supposed that this is only when used in accordance with the guidelines detailed below.

Product Assessment and Guidelines

Installation

All installations of TRISO SUPER 10 in roof spaces must be strictly in accordance with the manufacturer's "Installation Guidelines" ("ref. PZ177 dated 04/2006"); available from the UK supplier ACTIS Insulation Limited (UK).