



Ref: 5410 / 5.903/ TIS W/F/R / 26 /2015
Date: 07/01/2016

To: M/s. Al Manrattain Co. & Ali Al Shahaab Group W.L.L.
P.O. Box 926
Manama
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SUB: Sandwich Block

We have reviewed the documents pertinent to the above material submitted to us and we approve its use to insulate walls subject to the following conditions:

- The approval is limited to Sandwich Concrete Block, manufactured by your Company, having a density of about 2130kg/m³ for concrete and 16kg/m³ for expanded polystyrene from Al-Rashed Polystyrene Products Factory-K S A.
- **The overall U-value for wall should not exceed 0.75W/ m² °C using the Sandwich Block.**
- Thermal resistance value of 1.572 m²·K/W shall be used for the Sandwich Block, based on the Dubai Central Laboratory report on Thermal Insulation Properties and considering the estimated error of 2.54% for calculation method, for calculating the overall (U-value) of wall.
- The approved material produced remain in compliance with the regulations of Bahrain and in accordance with the relevant standard specifications.
- The TIU reserves the right in future to request additional documents and to withdraw its approval of the above mentioned material if any variations are noticed.
- This approval is granted for thermal insulation part only. Any additional approvals / permissions required should be sought from the concerned authorities.
- The TIU should not be held responsible for any consequences that may result from the use of this material.

Regards

THERMAL INSULATION UNIT

Enc:

Thermal Insulation System Approval Form including Applicant's Undertaking & Commitments