AN EARTHQUAKE-RESISTANT, ACOUSTIC AND THERMAL INSULATING CONSTRUCTION SYSTEM

M2 EMMEDUE

Advanced Building System

EMMEDUE BUILDING SYSTEM

Operator's Handbook

UPDATED EDITION

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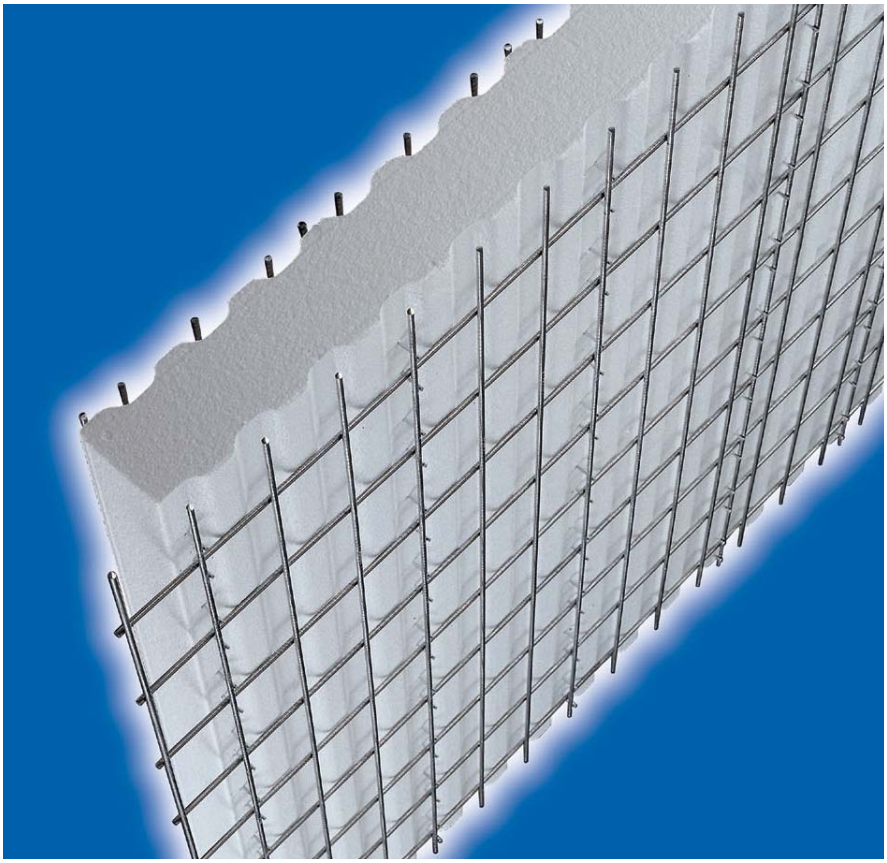
1. INTRODUCTION

The purpose of this Technical Manual is to indicate the most suitable method to optimise the Emmedue building system during installation.

These pages will enable the erection of buildings having standard features using panels and other elements that are normally employed in the Emmedue building system.



2. DESCRIPTION OF THE EMMEDUE BUILDING SYSTEM

2.1. FUNDAMENTALS OF THE EMMEDUE SYSTEM

The basis of the Emmedue construction system is based on a series of foam polystyrene panels and steel wire meshes, whose shape has been especially designed to apply structural plaster during panel installation.
The aim is that of providing a system of industrialized modular panels that, besides requiring shorter erection time compared to the conventional systems, permit to copy with structural and load-bearing functions, offering in the same time a fast assembling and laying, high thermal and sound coefficients and a wide range of shapes and finishes that may be achieved during the building process.

2.2. COMPOSITION OF THE EMMEDUE PANELS

The basic element is made as follows:

A) **A foam polystyrene core** that is atoxic, self-extinguishing and chemically inert with varying density and thickness depending on panel type.

B) **Electrowelded steel wire meshes** made of galvanised drawn steel wires placed on both sides of the polystyrene sheet and connected by means of joints of the same material. The wire gauge of the net varies according to panel type and mesh direction.

2.3. PLASTERING

After the panel assembly, structural plaster should be sprayed and/or poured on the panel - depending on panel type.

2.4. ADVANTAGES OF THE EMMEDUE SYSTEM

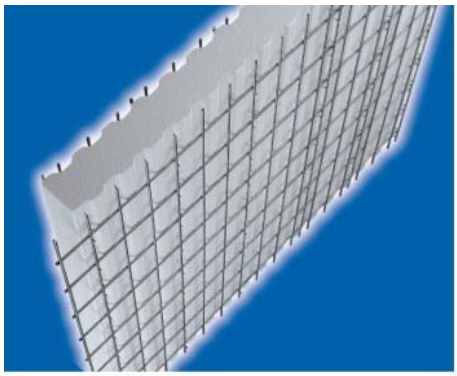
- **High heat and sound insulation**
- **Easy to move, rapid assembly and high durability**
- **High structural capacity and resistance to earthquakes and hurricanes**
- **No skilled labour is required**
- **Lower costs and erection time**
- **Lower foundations costs compared with traditional systems**
- **Full utilisation within the same building system**
- **Emmedue system well integrates with traditional systems**
- **Highly fire-proof material**
- **Easy and rapid installation of the plumbing, heating, electric, telephone systems, etc.**
- **Panels of customised length and thickness**
- **Solid panel connection**
- **Panel surface and Emmedue plastering machines are especially designed for a smooth plaster spraying**
- **Emmedue panels' meshes also include connection flanges**
- **The polystyrene core can avoid the thermal bridges**
- **Emmedue panel does not change following exposure to weather conditions**
- **Ecological in all its parts.**

3. CLASSIFICATION OF THE EMMEDUE PRODUCTS

The various types of Emmedue panels, their fields of application, standard sizes and complementary Emmedue products are described below.
The thickness of the polystyrene sheets as well as the length of the panels may be customised, according to the different project requirements of the customers.

Generally speaking, the thickness of panels is usually determined according to its different conditions of heat insulation and required structural behaviour. In the latter case, infact, a greater moment of inertia may be achieved by increasing the interval between the two concreted or plastered surfaces.

As far as the degree of heat insulation of polystyrene is concerned, a finished panel of a 10-cm thickness with a 4-cm thick polystyrene core (density 15 kg/m^3) corresponds to an ordinary brick wall 64-cm thick.



SINGLE PANEL PSME

DOUBLE PANEL PDME

FLOOR PANEL PSSGE

STAIRCASE PANEL PSSCE