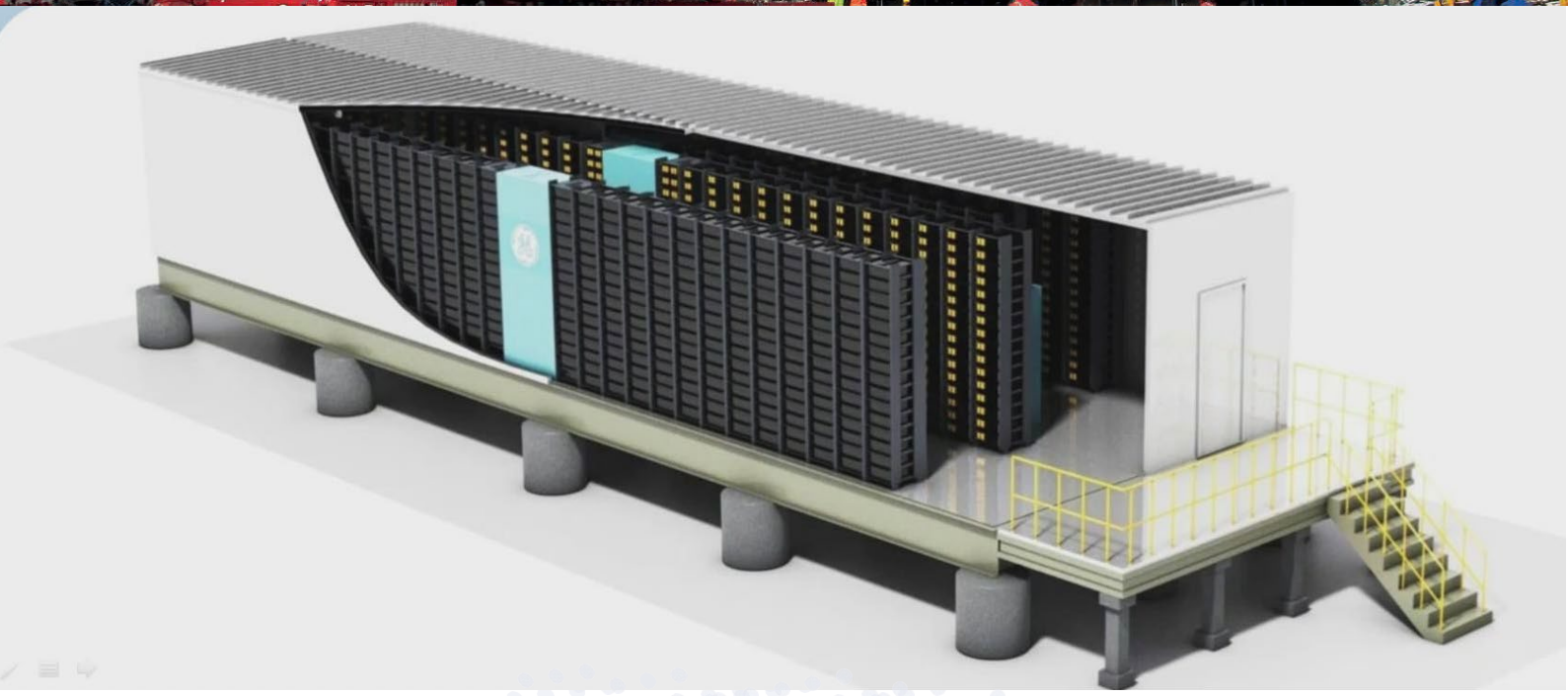
MTE Ltd



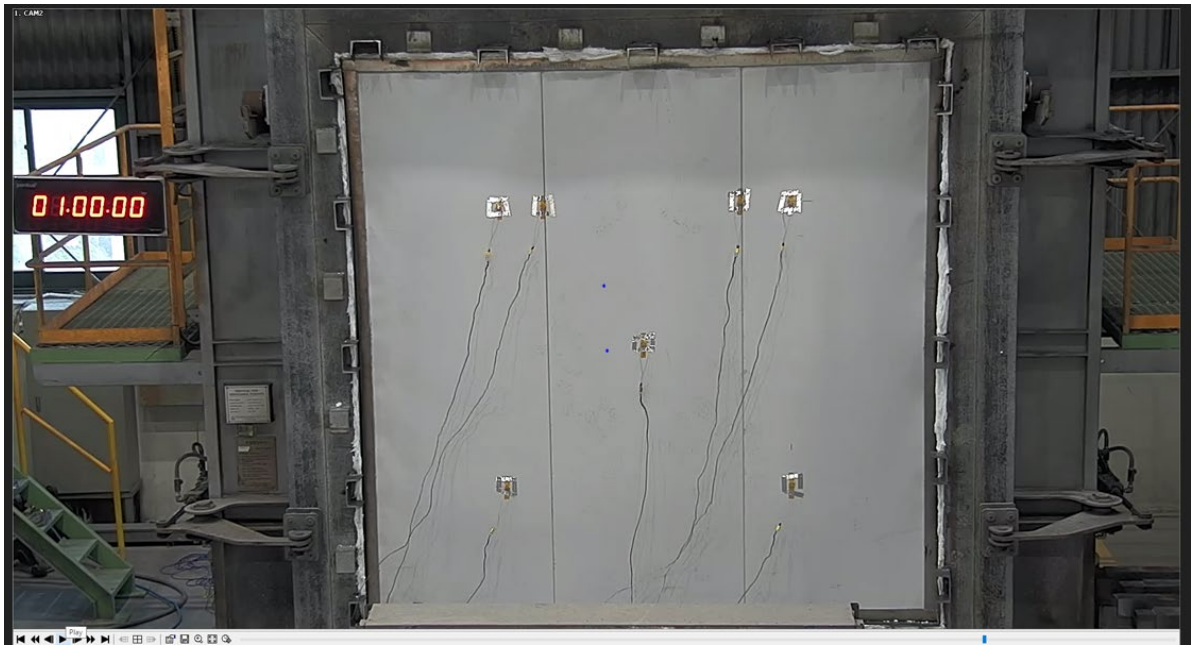
Fire Rated Composite Panel Systems
Blast & Fire Protection

www.mechtool.co.uk

MTE is an engineering-manufacturing company with a global name for the protection of people and equipment from fire, blast and radiant heat hazards in onshore and offshore oil and gas, nuclear, renewable energy and petrochemical industries. MTE devotes a unique wealth of specialist skills and over 55 years' experience to the design, build and delivery of individual and dependable solutions.

From its foundation in 1969, MTE acquired a reputation for providing protection solutions for North Sea oil & gas platforms. The company has built on this heritage of skills and knowledge through a program of continuous technical improvement.

As a result, the Fire and Blast Solutions technical team at MTE today offers an unrivalled capability, not only to the Oil & Gas, Renewables & Nuclear industry, but also increasingly to Battery Energy Storage Systems (BESS).



Full Scale One Hour Fire Test.

The MTE One Hour Fire Rated Composite Panel System has been developed primarily for the purpose of providing a fire rated dividing wall between internal spaces of an offshore or onshore building application. The system's unique flexibility allows for variable fire, thermal, acoustic and pressure variances with only subtle changes to the components. This means that every project can be designed without complex details having to be developed and utilised, meaning a fast track, low-cost, high-quality system to meet all specification demands, no matter how arduous these may be.

System Configuration.

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The MTE A60- EI60 one hour Composite panel system consists of 100mm thick composite panels made up of 0.6mm galvanized facing sheet laminated on each side of the insulation. The facing sheet can be provided in galvanized finish or using PVC facings in a range of standard colours.

The panel thickness can be increased to provide for additional thermal or acoustic requirements, without having to add cumbersome and expensive secondary layers of panels, The standard system is made up of 550 mm wide panels which can span 3m in height without the need for secondary support steelwork.

Typical Design Parameters

Ambient Conditions

MTE Composite Walls panel are generally designed for the following ambient temperature conditions:

- External – -10°C to +25°C
- Internal – 5°C to 30°C
- Wind (100y 3s Gust) – 52m/s
- Relative Humidity – up to 95%

All External Wall panel are weathertight - IP56 rated

Design load deflection

All Composite Wall panel can be capable of withstanding project design loads in accordance Structures and Equipment-External Loading Design Basis, under in-service conditions with deflection no greater than 1/180 of the span.

Air Ingress

Air leakage rate @ 50Pa are generally less than 500 l/m²/h

Thermal Performance

Typically, MTE Composite Wall panel have a thermal U-value of 0.35W/m²K

Fixings

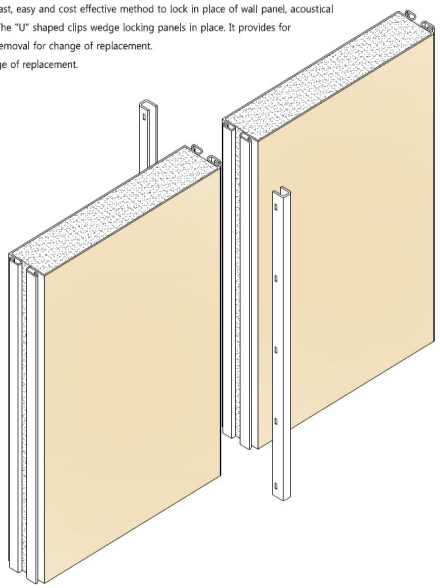
MTE Composite Wall panels use fully mechanical fixing to avoid hot work during installation. All fixings to be 316L stainless steel

Panel to Panel Vertical Joint

4. System Details
e. Panel Joint Connection
V. Typical Panel to Panel Fixing Detail

Installation Method:
1. Panels to be fixed to adjacent panel at joints using supplied clips as shown below.
2. Clips to be cut to length and tapped into place using a rubber mallet.
3. Note: Fire mastic sealant NOT to be used within this connection.

B type panel have a fast, easy and cost effective method to lock in place of wall panel, acoustical panel, and partition. The "U" shaped clips wedge locking panels in place. It provides for easy and fast future removal for change of replacement.
panels, etc., for change of replacement.



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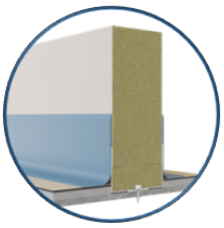
Panel to Deck Fixing Details

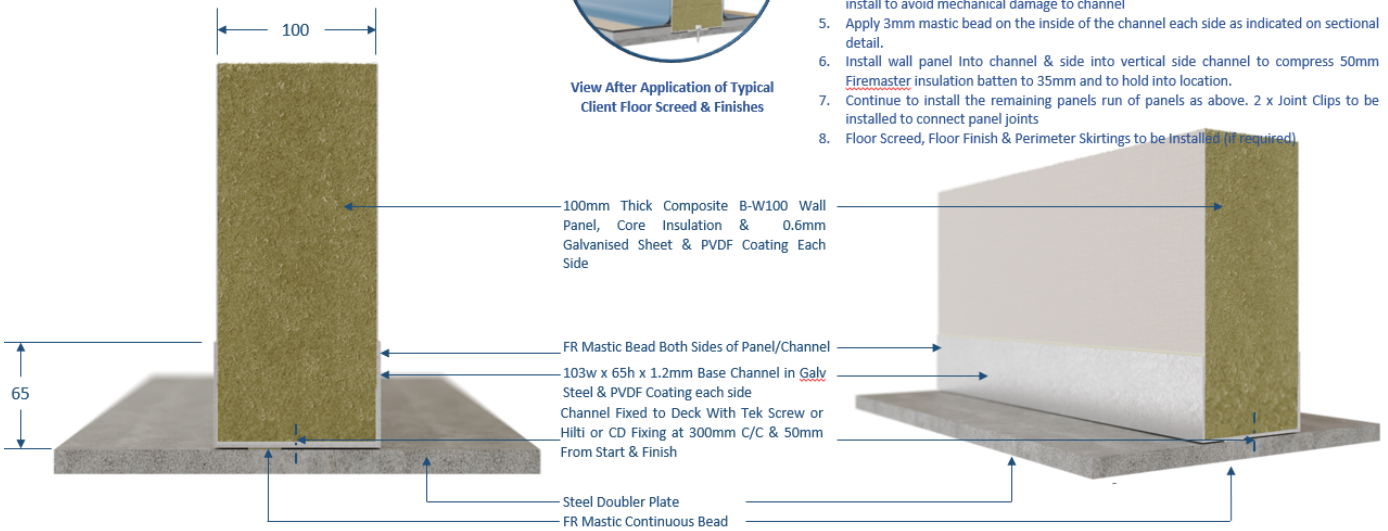
4. System Details
c. Typical Panel to Deck Junction
i. Dry/Dry Area
Fixed Channel on Deck



View After Application of Typical Client Floor Screed & Finishes

Installation Method:

1. Mark channel location on deck
2. Apply 1 x continuous line of fire mastic along deck as shown on sectional detail, lay Channel in place & press down onto fire mastic sealant to create fire and watertight seal
3. Fix channel to deck with Tek Screw or Hilti or CD Fixing at 300mm C/C & 50mm from start & finish
4. Install 100w x 100h mm timber battens into channel until insulation & channel ready to install to avoid mechanical damage to channel
5. Apply 3mm mastic bead on the inside of the channel each side as indicated on sectional detail.
6. Install wall panel Into channel & side into vertical side channel to compress 50mm Firemaster insulation batten to 35mm and to hold into location.
7. Continue to install the remaining panels run of panels as above. 2 x Joint Clips to be installed to connect panel joints
8. Floor Screed, Floor Finish & Perimeter Skirtings to be Installed (If required)



Dimensional Sectional Perspective **Sectional Perspective**

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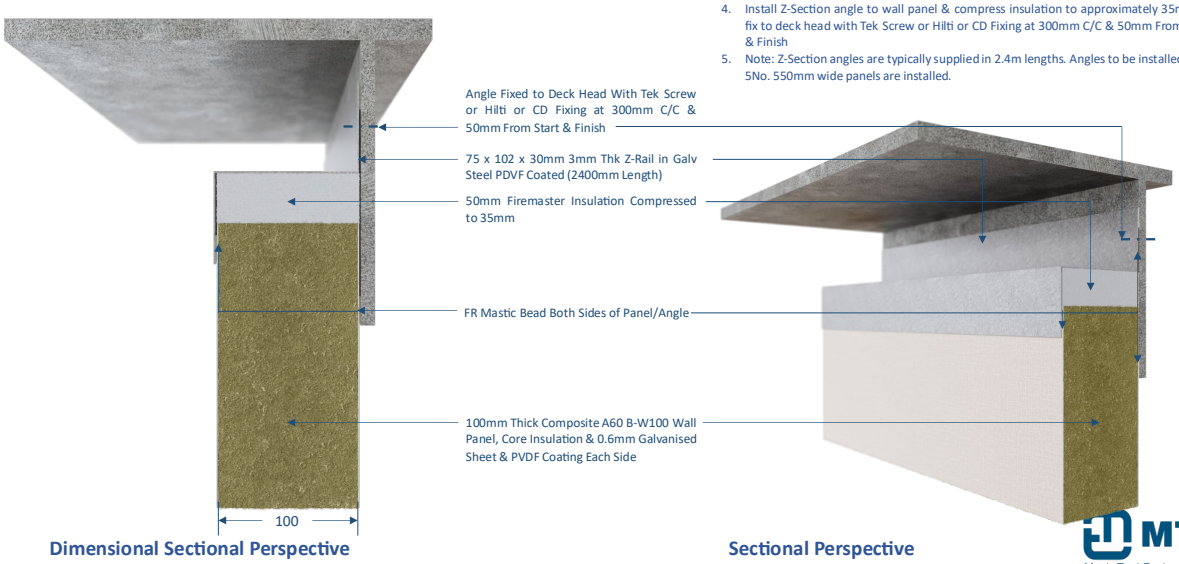
Panel to Deck Top Fixing Details

4. System Details
d. Typical Panel Top Junctions
II. Fixed Z-Section to Underdeck

Installation Method:

1. Apply 3mm bead of fire mastic sealant to the length of the angle or deck head plate, install panel and press back to create fire and watertight seal.
2. Install firemaster insulation onto top of panel edge
3. Apply 2 x continuous lines of 3mm fire mastic along wall panel and deck head plate as Shown on Sectional Detail
4. Install Z-Section angle to wall panel & compress insulation to approximately 35mm, & fix to deck head with Tek Screw or Hilti or CD Fixing at 300mm C/C & 50mm From Start & Finish
5. Note: Z-Section angles are typically supplied in 2.4m lengths. Angles to be installed once 5No. 550mm wide panels are installed.



Dimensional Sectional Perspective **Sectional Perspective**

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