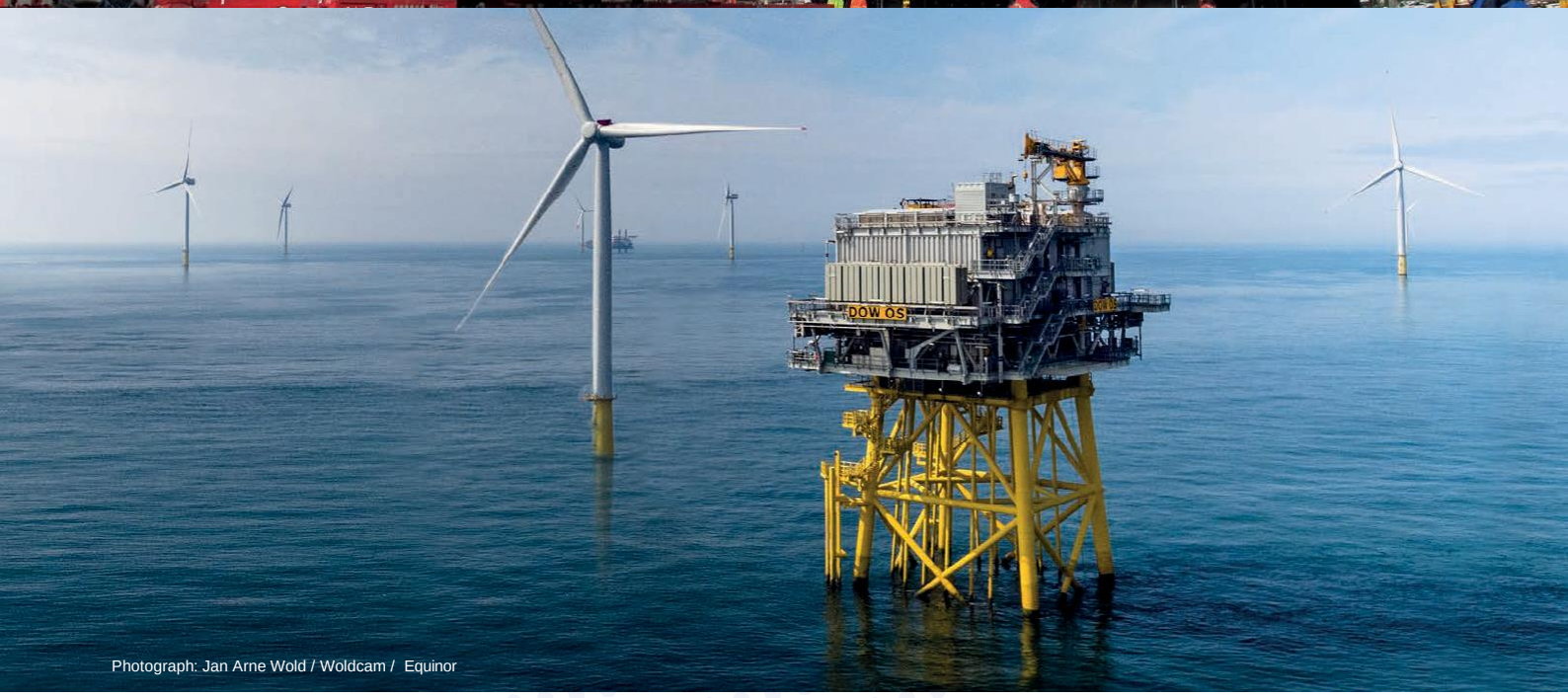
MTE Ltd


Photograph: Jan Arne Wold / Woldcam / Equinor

# Acoustic Solutions

# Acoustic Wall / Sound Absorption Cassettes

www.mechtool.co.uk

# Mech-Tool Engineering Ltd [MTE] designs, manufactures and installs world class acoustic wall and sound absorption cassettes for walls and ceilings systems tailored to specific project requirements in the most cost-effective way.

MTE is an engineering-manufacturing company with a global name for the protection of people and equipment from fire, blast, radiant heat and acoustic noise hazards in onshore and offshore oil and gas, nuclear, renewable energy and petrochemical industries. MTE devote a unique wealth of specialist skills and over 50 years' experience to design, build and delivery of individual and dependable solutions.

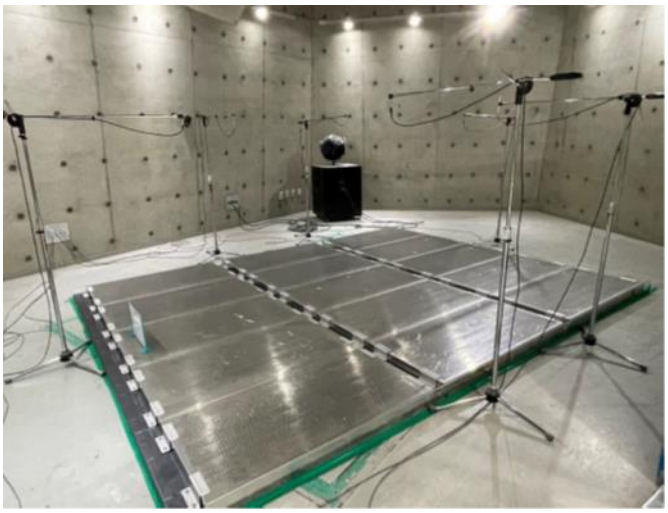
From its foundation in 1969, MTE acquired a reputation for providing protection solutions for North Sea oil & gas platforms. The company has built on this heritage of skills and knowledge through a program of continuous technical improvement.

As a result, the Fire and Blast Solutions technical team at MTE today offers an unrivalled capability, not only on platforms, but also increasingly in onshore plant.

The company's expertise is now recognised in areas as diverse as the UK or as far as Sakhalin Island on Russia's North Pacific coast. MTE's know-how is employed in oil and gas, in particular where working conditions are challenging due to extreme arctic climate and aggressive environments.

## The complete solution

- Carbon, stainless steel 316L materials
- Light weight
- Simple cost-effective installation
- Maintenance free – stainless steel
- Bespoke design solutions provided
- Quality Accreditation to ISO 9001:2015
- Health & Safety Accreditation to ISO 45001:2018
- Environmental Accreditation to ISO 14001:2015

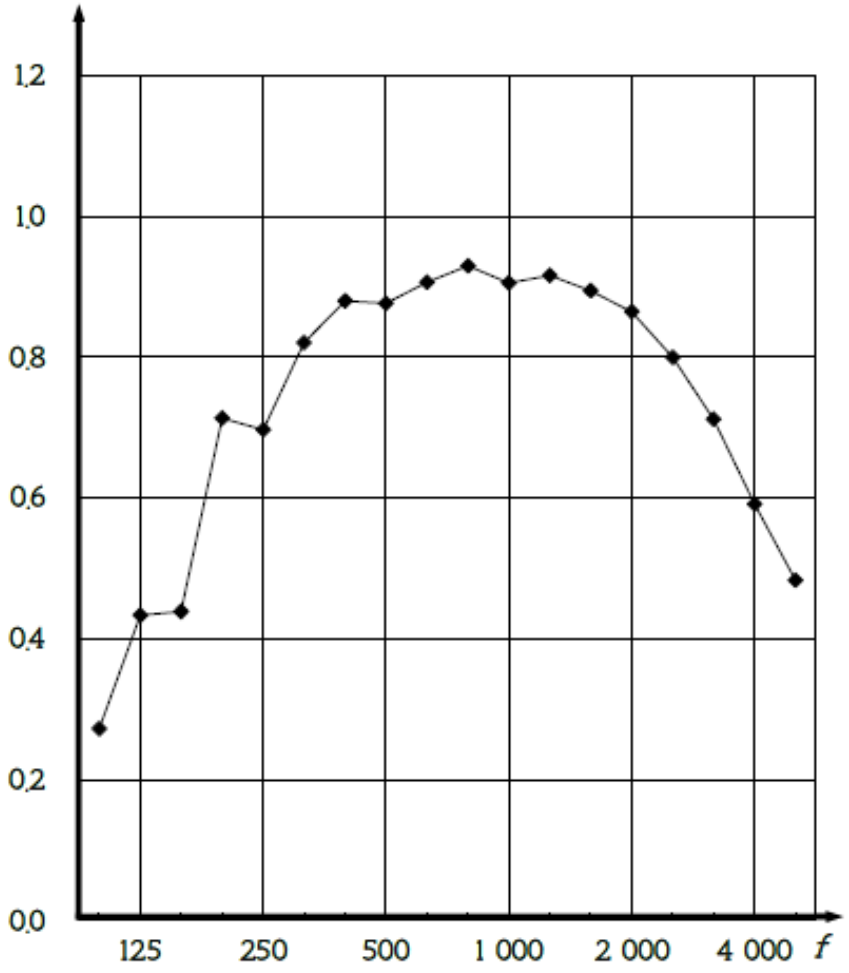


**MTE Acoustic Wall / Sound Absorbing Cassettes have been fully tested to BS EN ISO 354:2003, ASTM C 423-22**

**Test Results for MTE Acoustic Wall / Sound Absorbing Cassettes**

## 1.6 TEST RESULT

| frequency $f$ Hz | $\alpha_s$ one-third octave – |
|---|---|
| 100 | 0.27 |
| 125 | 0.43 |
| 160 | 0.44 |
| 200 | 0.71 |
| 250 | 0.70 |
| 315 | 0.82 |
| 400 | 0.88 |
| 500 | 0.88 |
| 630 | 0.91 |
| 800 | 0.93 |
| 1 000 | 0.91 |
| 1 250 | 0.92 |
| 1 600 | 0.89 |
| 2 000 | 0.86 |
| 2 500 | 0.80 |
| 3 150 | 0.71 |
| 4 000 | 0.59 |
| 5 000 | 0.48 |




**Key**

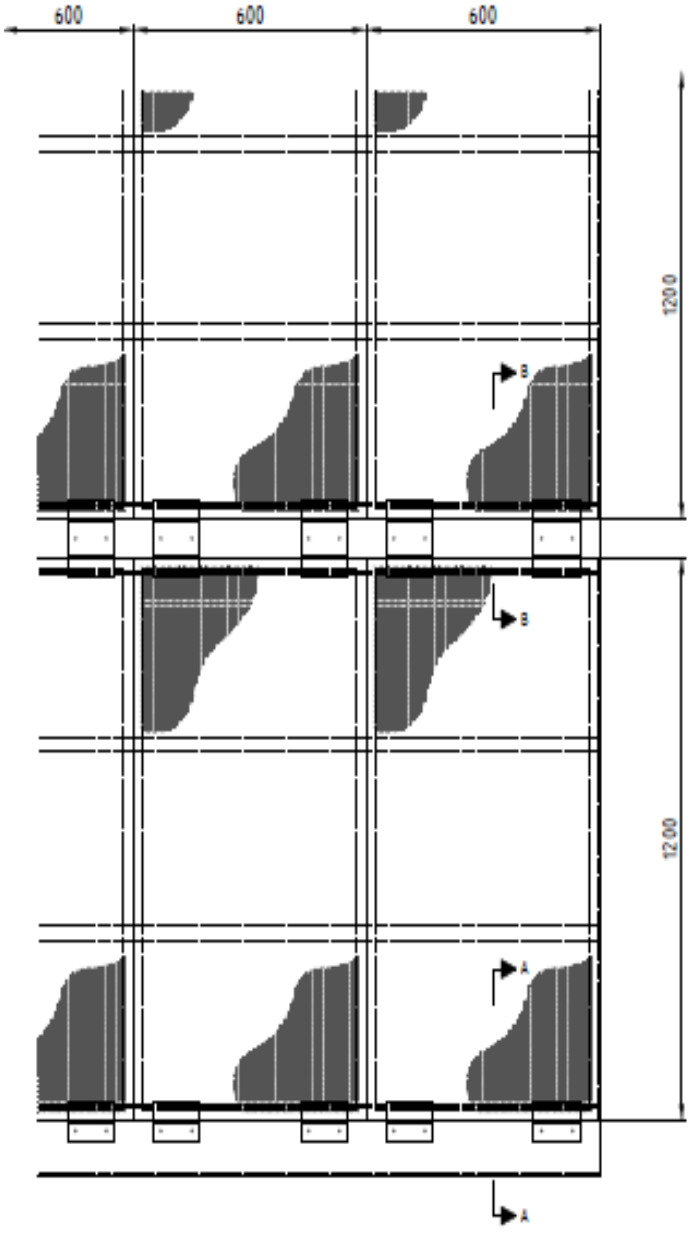
$\alpha_s$ sound absorption coefficient

$f$ frequency, in Hz

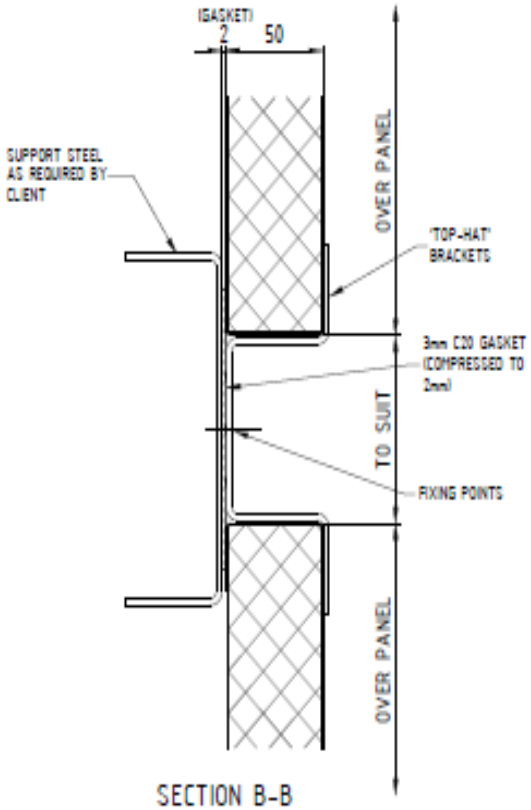
**The noise reduction coefficient in accordance with ASTM C 423-23 :**

NRC = 0.85

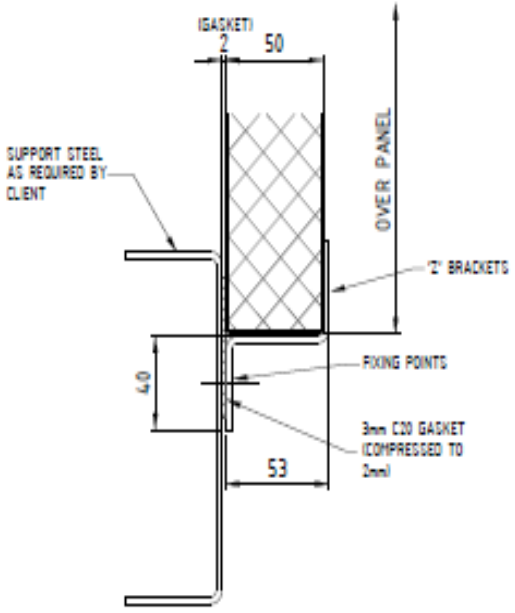
Average of 250 Hz, 500 Hz, 1 000 Hz and 2 000 Hz = 0.84




TYPICAL (PART) PANEL LAYOUT

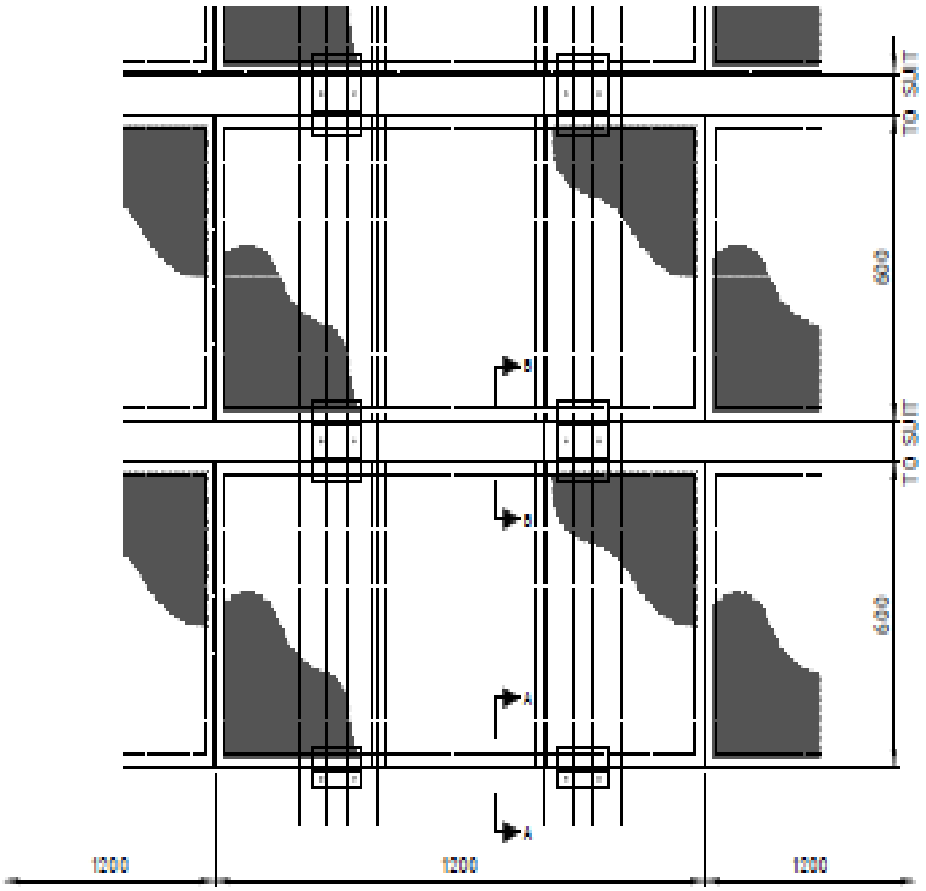



SECTION B-B

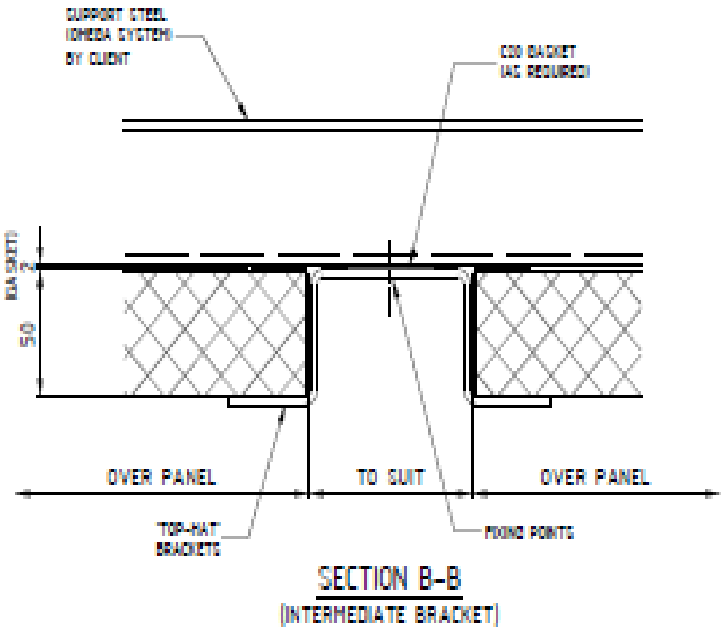



SECTION A-A

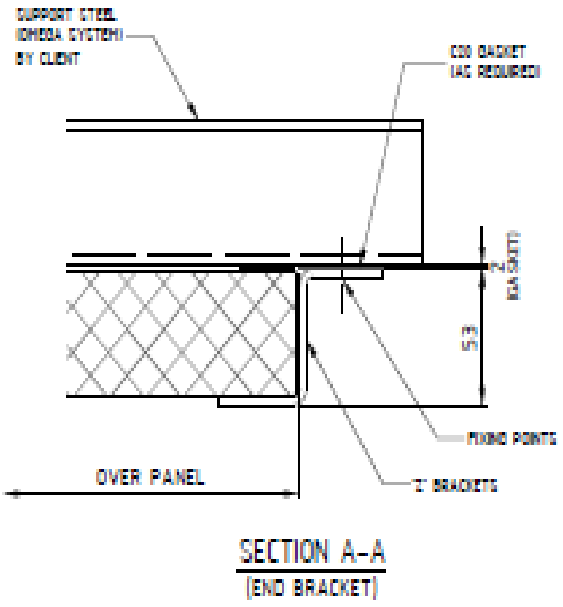
**MTE Acoustic Wall / Sound Absorbing Cassettes Panel Details**




TYPICAL (PART) PANEL CEILING LAYOUT
(VIEWED FROM UNDERSIDE)




SECTION B-B
(INTERMEDIATE BRACKET)




SECTION A-A
(END BRACKET)

**MTE Acoustic Ceiling / Sound Absorbing Cassettes Panel Details**

# MTE Acoustic Wall - Ceiling / Sound Absorbing Cassettes Typical Performance Information

MTE Acoustic Wall - Ceiling / Sound Absorbing Cassettes can be used to provide the required

- Sound Absorption Coefficient
- Noise Reduction Coefficient

Sound absorption should be provided in manned areas via the use of MTE acoustic ceiling system combined with MTE acoustic wall sound absorbing cassettes.
The MTE acoustic systems performance is designated by BS EN ISO 354: 2003 as;

- Noise Reduction Coefficient (NRC) = 0.85 Class B Extremely Absorbing
- Sound Absorption Coefficient ($\alpha_s$) = 0.81 Class B/C Extremely/Highly Absorbent

The sound absorbing cassettes are generally supplied in standard sizes; however they can be supplied sized to suit the structural grid as required by the client in order to minimize site cutting and wastage. The cassettes are formed from perforated steel sheet into a tray however they have an unperforated banding which forms the cassette end framing member.
The rear face of the cassette can be supplied with solid plates, perforated plates or partially open with steel straps to hold the insulation in place whilst providing a ridged cassette panel.

The acoustic system can have the same surface finish as the surrounding non perforated walls. The system insulation is encapsulated in a film membrane to prevent any fibers or dust from being emitted into the environment while protecting the insulation from moisture ingress and maintaining a flame retardant product with the desired sound absorbing qualities / acoustic performance.


**UK and Europe**

Mech-Tool Engineering Ltd
Whessoe Road
Darlington
County Durham England
DL3 0QT

T: +44 (0) 1325 355141
F: +44 (0) 1325 487053
E: sales@mechtool.co.uk

**Korea**

Mech-Tool Korea inc,
17 Hwajeonsandan 5-ro
84 Beon-gil, Kangseo-gu
Busan
Republic of South Korea 46738

T: T: +82 (0) 55 541 1969
F: +82 (0) 55 541 1909
E: sales@mechtool.co.uk

www.mechtool.co.uk


MTE Ltd