



Photograph: Jan Arne Wold / Woldcam / Equinor

Thermal & Environmental Protection Solutions

Equipment Heatshields

"Engineered for Safety. Built for Performance."

www.mechtool.co.uk

EQUIPMENT HEATSHIELDS

For over 50 years, Mech-Tool Engineering Ltd (MTE) has been the global leader in radiant heat shielding systems for offshore and onshore markets.

MTE Equipment Heatshields are independently type approved by Lloyd's Register following witnessed testing (2010) and further testing at the BRE Global Testing Facility in Watford, UK (2016). These tests assessed:

- Heat flux reduction
- Noise generation
- Wind speed reduction



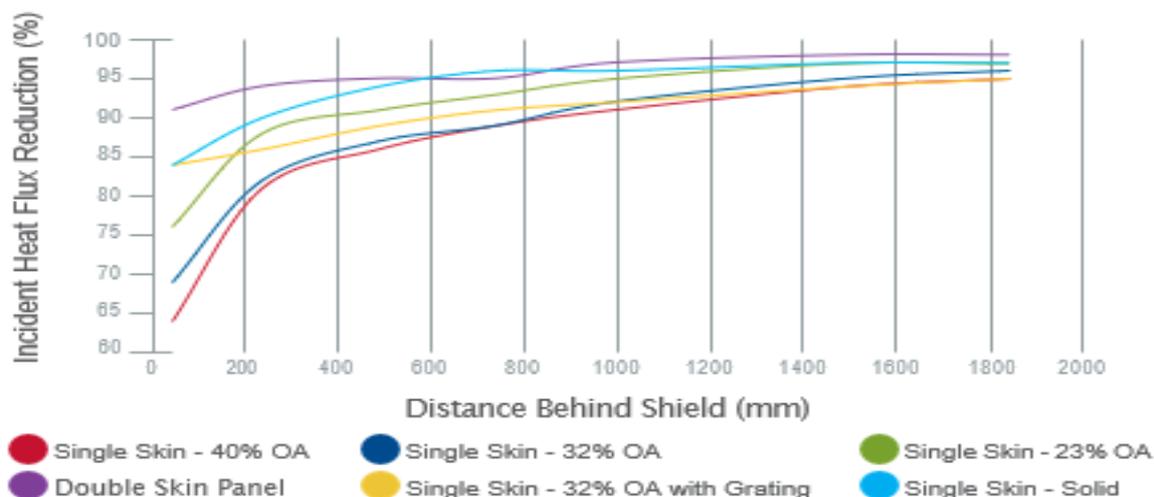
Proven Engineering. Certified Performance.

Constructed from perforated stainless-steel plate, our heatshields are strong, corrosion resistant, lightweight, naturally ventilated, and proven through extensive full-scale testing.

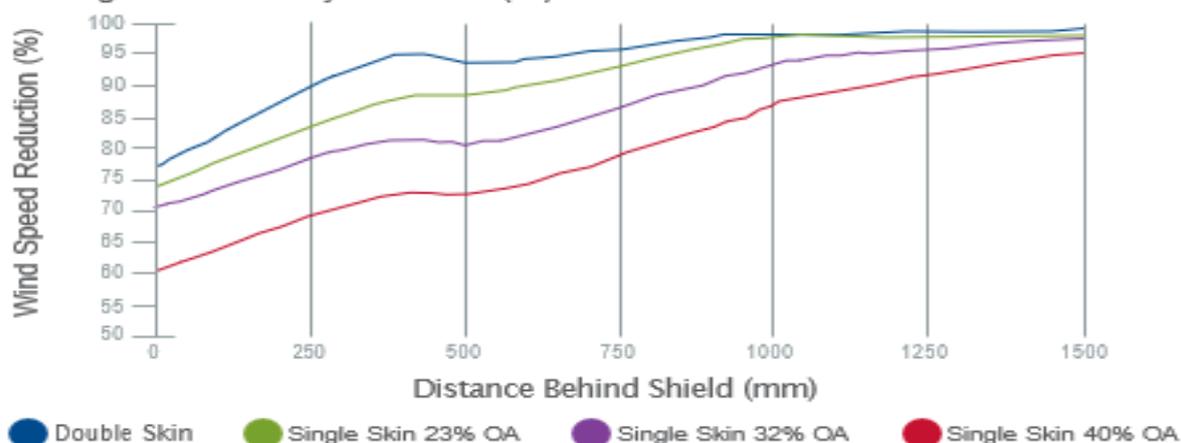
MTE provides design and structural calculations to validate heat flux and temperature reduction for given incident heat flux conditions, shield-to-object separation, and overall design integrity under known environmental conditions.

EQUIPMENT HEATSHIELD PERFORMANCE CRITERIA

Incident heat flux reduction (%) with distance behind shield



Average wind velocity reduction (%) with distance behind shield



Maximum pressure on single skin perforated Heat Shield - mbar

Panel Span	40% Open Area Primary Skin			32% Open Area Primary Skin			23% Open Area Primary Skin		
	1.5 m	2.0 m	2.5 m	1.5 m	2.0 m	2.5 m	1.5 m	2.0 m	2.5 m
500	830	1108	1383	1028	1387	1709	1319	1759	2198
1000	207	277	348	258	342	427	330	440	549
1500	92	123	154	114	152	190	147	195	244
2000	52	69	86	64	85	107	82	110	137
2500	33	44	55	41	55	68	53	70	88
3000	23	31	38	28	38	47	37	49	61
3500	17	23	28	21	28	35	27	36	45
4000	13	17	22	16	21	27	21	27	34
4500	10	14	17	13	17	21	18	22	27
5000	8	10	13	10	13	16	13	17	21

Expertise You Can Rely On

With more than five decades of design experience, our engineering team combines advanced computer-based tools with proven practical knowledge to solve the most complex thermal, mechanical, and structural challenges.

Our extensive industry expertise is reinforced by hands-on testing, including several jet fire tests and over 100 full-scale fire and blast trials — ensuring accuracy and reliability in every solution.

Certified by Lloyds and DNV, MTE's Design Consultancy team supports projects at every stage — from design evaluation and feasibility studies through FEED and manufacturing. This approach guarantees optimised engineering solutions that deliver significant weight and cost savings for our clients.

Applications

- ✓ Control Consoles – Protection of instrumentation and monitoring stations
- ✓ Piping – Heat protection for gases, liquids, and structural piping
- ✓ Cable Trays – Shields electrical systems from radiant heat
- ✓ Muster Points – Ensures safe evacuation and mustering
- ✓ Sunshade Systems – Protection from solar and environmental extremes

CONTROL CONSOLE PROJECTION

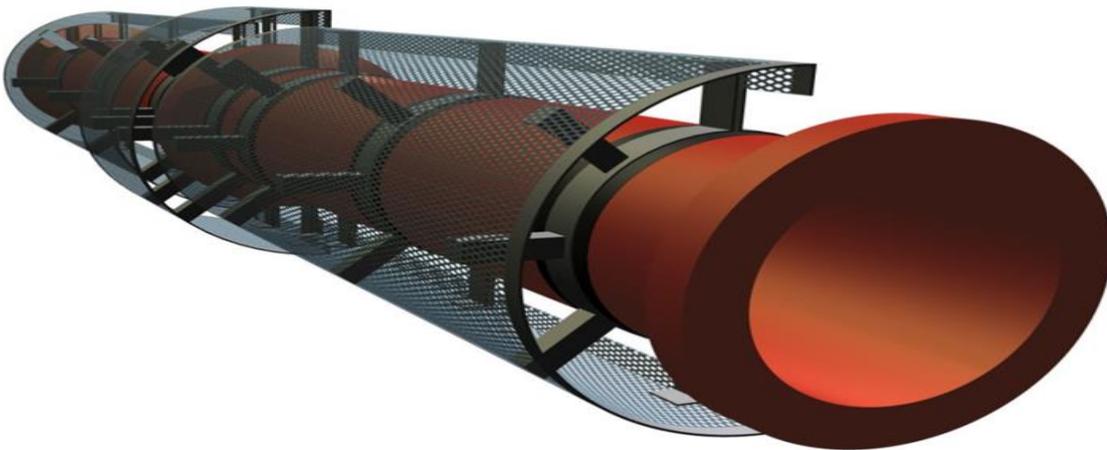


MTE Equipment Heatshields protect heat-sensitive instrumentation, valve systems, and monitoring stations across offshore platforms, vessels, and onshore petrochemical and process facilities.

PIPING PROTECTION

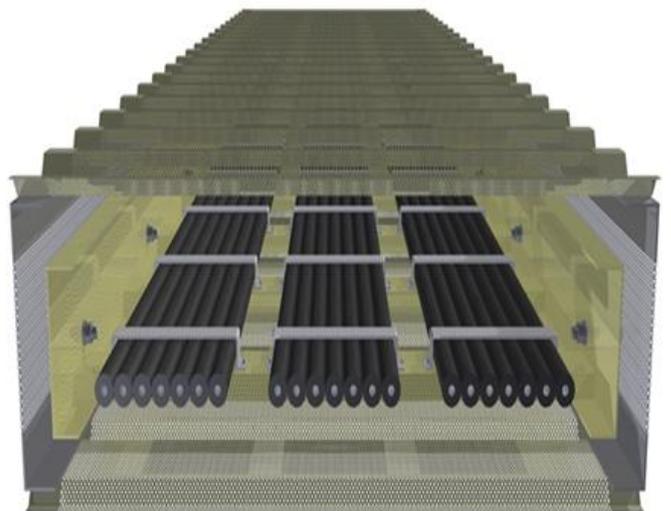
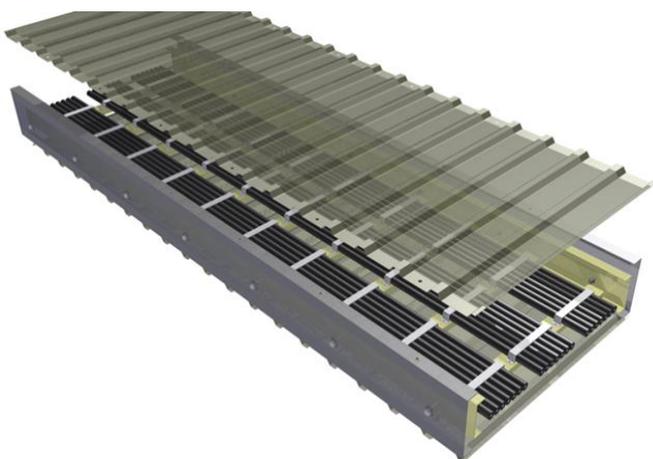


MTE Heatshields reduce heat impact on sensitive pipeline contents — such as gases or liquids — while protecting structural piping in heat-critical areas, including those directly beneath flare platforms.



CABLE TRAY PROTECTION

MTE Equipment Heatshields protect sensitive cable systems from solar and radiant heat, helping maintain the operational efficiency of electrical infrastructure.



Performance You Can Trust

- ✓ Extensively tested at BRE Global, with Lloyd's Register witnessing
- ✓ Wind speed tests up to 25 m/s at multiple angles
- ✓ Achieves an immediate >75% reduction in incident wind velocity
- ✓ Noise tests confirmed no measurable increase in noise levels (within experimental limits)
- ✓ Designed with no moving parts, maximising reliability in storm winds and driving rain
- ✓ Proven through jet fire tests and over 100 full-scale fire and blast tests

EQUIPMENT HEATSHIELD SPECIFICATIONS

- **Materials:** Stainless steel grades 316L, SAF 2304, or 310s
- **Panel thickness:** 1.5 mm as standard
- **Isolation gaskets:** Supplied for thermal break between support steelwork and stainless steel angles
- **Attachment:** Simple bolted connections with M12 stainless steel set screws, grade A4 (with gaskets and washers)
- **Identification:** Each panel individually marked for ease of installation

Testing and Certification

Independently Tested (Building Research Establishment 2010 and 2016)

Witnessed by Lloyds Register 2010

Independent Verification of Performance
(Lloyds Register – Design Appraisal Document)

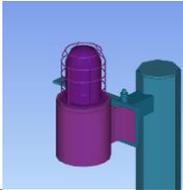
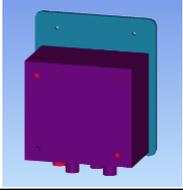
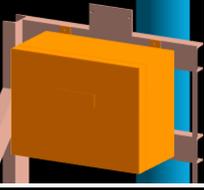
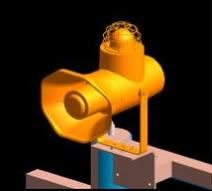
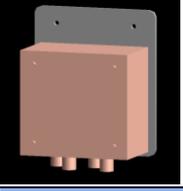
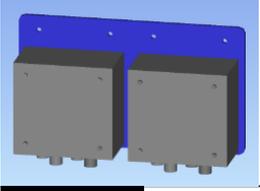
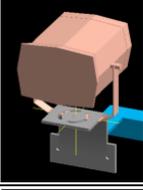
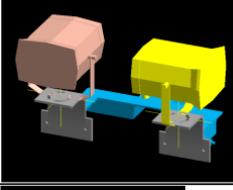
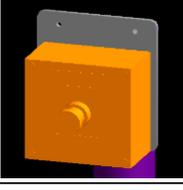
- 🔥 Heat Flux Reduction
- 🌀 Wind Velocity Reduction
- 🔊 No Noise Generation

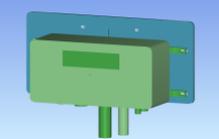
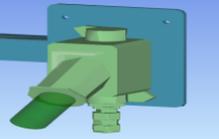
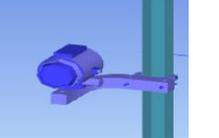
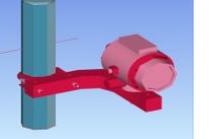
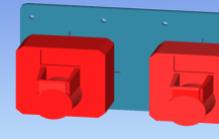
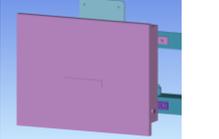
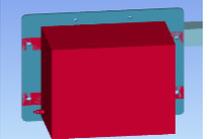
50+ years knowledge and expertise as the global leader in the design and build of high performance Heat and Solar Radiation Shielding Systems

Benefits of MTE Heat Shield System



EQUIPMENT HEATSHIELD CATALOGUE – PARTS LIST – ORDER FORM

Elec	TYPE	Item	Equipment size (W x H x D)	Typical Shield shape	Quantity (ea)
1	BEACON-01	Beacon (Ex)	174x337x170		
2	BEACON-JB-01	Ex JB Beacon	160x160x90		
3	BEACON-MJB-01	Ex MJB Beacon	400x400x160		
4	BEACON-02	Telephone beacon with sounder (Ex)	257x386x323		
5	SP-JB-01	Speaker JB single	160x160x90		
6	SP-JB-02	Speaker JB mutil	160x160x90		
7	SPEAKER-01	Speakers single	200x224x207		
8	SPEAKER-02	Speakers mutil	200x224x207		
9	LCS-01	LCS	160x160x90		

Elec	TYPE	ITEM	Equipment size (W x H x D)	Typical Shield shape	Quantity (ea)
10	SOC-JB-01	SOCKET JB	260x160x90		
11	SOC-01	SOCKET	80x240x155		
12	TRANS-01	TRANSMITTER-01	120x270x150		
13	TRANS-02	TRANSMITTER-02	120x270x150		
14	WELD-SOC-01	WELDING SOCKET	200x474x222		
15	HS-01	ESD HS PUSH BUTTON	134x134x134		
16	CCTV-JB-01	CCTV JB	444x444x132		
17	TEL-JB-01	TELECOM JB	340x260x160		
18	EHT-JB-01	ETS-05	122x120x150		
19	EHT-JB-02	JBS-100	122x91x242		
20	EHT-JB-03	Marshalling JB	260x160x91		
				SUB TOTAL	0

The MTE Advantage

- ✓ **Proven Performance** – Designed to meet your environmental requirements
- ✓ **Custom-Built Solutions** – Tailored to your project needs
- ✓ **Trusted Globally** – Installed in major energy and industrial facilities worldwide
- ✓ **Efficient Installation** – No specialist tools required

Your Safety. Our Priority.

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