

Design Consultancy



Efficient, cost-effective protection solutions for complex fire and blast risks.

MTE's Design Consultancy delivers high-accuracy fire and blast analysis for complex structures — helping clients control risk, optimise design and reduce project cost with confidence.

MTE acoustic products are independently tested Mech Tool Engineering Ltd (MTE) protects people and critical assets from fire, blast and radiant heat hazards across global oil & gas, renewables, petrochemical, nuclear and SMR projects.

With 50+ years' specialist experience and independently validated proprietary tools, MTE delivers fast, accurate solutions to complex thermal, mechanical and structural challenges.

Since 2012, MTE's Design Consultancy has provided standalone specialist support or fully integrated delivery with the Fire and Blast Solutions division.

Led by Technical Director and Chartered Engineer Alan Mather, the consultancy has grown rapidly in high hazard markets, securing major commissions and specialist talent.

Today, MTE pairs deep engineering expertise with advanced modelling to analyse complex stressed skin structures for demanding fire and blast conditions.

Optimised Design. Proven Savings.

MTE's pre engineered approach optimises weight, cost and performance across complex fire and blast protection systems—delivering the speed, accuracy and credibility needed to reduce project spend.

On a recent 5,000 m² stainless steel fire and blast wall project, MTE's optimised stressed skin design cut wall weight by 20% versus comparable systems and 67% versus flat plate bulkheads. Systems rated up to HI20 and jet fire can also be delivered without PFP, reducing materials, installation and lifecycle costs.

Based in Darlington, the consultancy offers competitive rates that further lower overall project costs.

The complete solution

- Feasibility-stage design parameters
- Blast-study interpretation
- FEED deflection and connection design
- Fast, credible outputs that reduce cost
- Standalone support or integrated turnkey delivery

Intelligent design. Measurable savings.

Specialist Capabilities:

- Blast-study review and technical interpretation
- Stressed-skin fire and blast-resistant structural design
- Blast relief studies
- Basis of Design (BoD) and functional specification development
- Fire and blast wall optimisation for weight and space efficiency
- Structural, thermal, fire, seismic and PFP design optimisation

Benefits of the MTE System

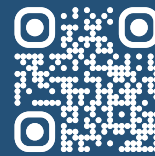
- Optimised weight, cost and space efficiency
- Certified blast, fire and thermal performance
- UK and Korean fabrication capacity
- Controlled off-site manufacture
- Integrated penetration frames, doors and removable panels
- No passive fire protection (PFP) requirement
- Reduced lifecycle and OPEX costs
- End-to-end project management
- Innovation-led R&D proven in practice
- Type approval from Lloyd's Register and DNV
- Quality accreditation to ISO 9001:2015

Pre-Engineering	Design	Engineering
Feasibility	Structural	3D Modelling
Pre-feed	Fire (A, H & J)	Structural Detailing
Feed	Blast	Fire & Blast Detailing
Surveys	Seismic	
Blast Study Reports		

MTE's expertise is proven through decades of real-world validation, including multiple jet-fire trials and more than 100 full-scale fire and blast tests, with products certified by Lloyd's Register or DNV.



***Tested, certified and trusted –
complete confidence in every
MTE solution***



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