



TENMAT
ADVANCED MATERIALS



REPLACING
CEMENT PADS (HARD BOARD) WITH
FEROFORM F3637

FEROFORM F3637 – BENEFITS

For over 25 years *FEROFORM* F3637 high load and bearing insulation pads have been “The Industry Standard” for tankers carrying hot bulk liquids in independent tank constructions.

FEROFORM F3637 offers key advantages over other systems such as cement based support pads (hard board) being far tougher and more durable in service, higher load capacity giving fewer and smaller pads with quick and easy installation.

FEROFORM is the ideal solution for tankers and barges ranging from 1,000—37,000dwt.

Approved by the main Marine Classification Societies and supplied to more than 70 tankers to date *FEROFORM* F3637 is designed to customer’s requirements, easy and quick to install and is the ideal choice for new build and repairing or upgrading existing insulation systems.

- Superior Impact Performance

Over 350x the impact strength of Cement.

- Superior Load Bearing Capacity

Typically 3x higher load capacity than cement means fewer and smaller pads.

- Controlled, Stable Friction

FEROFORM is a bearing material with half the friction of cement giving controlled tank movement.

- Easy to Install

Easy adjustment giving quick & simple installation, allowing accurate alignment of the pads, minimising installation and construction costs.

- Bespoke Design and Machining

FEROFORM pads are designed and can be optimised to suit the actual load of the tank, particularly where peak loading occurs.

- Approvals

Approved by all leading Marine Classification Societies.

- Ideal for New build and System Upgrades/Repairs

Easy to incorporate at design stage or replacing existing cement pads

- Excellent Insulation

Protecting the ship’s hull from high cargo temperatures (up to 300°C).

- Maintenance Free

Designed as a “fit & forget” system. No failures in over 25 years service.

- Tank Supports for All Applications

FEROFORM F3637 is available for vertical support, anti-pitch and anti-roll applications.

- Tank Supports for All Applications

Applications include vertical load support, anti-pitch and anti-roll.

Major Customers

TENMAT support pad system is considered the best option by both shipyards and ship owners:

- Wisby Tankers
- Sargent Marine
- Gearbulk
- Shell
- Tarbit Shipping
- Stolt Nielsen
- Vroon
- TIPCO
- Horizon Marine
- Kumiai Senpaku
- SDARI
- Delta Marine
- AVIC
- Hyundai Mipo
- CSSC
- Yangzijang
- Jiangsu Chengxi
- Nakatani
- RMK
- Sedef Shipyard

"We have used *FEROFORM* F3637 pads as the load bearing high temperature insulation support in our bitumen tankers since 2003 and have found that this is the best material available exhibiting excellent performance. We tried competitors materials, but found the quality very poor. *FEROFORM* F3637 pads in service have proved to be excellent in service and we are fully satisfied with its performance"

Captain Hein, Fleet Superintendent, Sargent Marine

"We have used *FEROFORM* F3637 pads as the load bearing high temperature insulation support in bitumen tankers we have built since 2011 and have found that this is the best material available exhibiting excellent performance for this demanding application. *FEROFORM* F3637 is very easy to install, thus allowing us to provide excellent and rapid service to our customers.

Gencay Ok, Project Manager, Sedef Shipyard

FEROFORM vs. CEMENT

| FEATURE | FEROFORM F3637 | CEMENT BLOCK |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Design | <ul style="list-style-type: none"> • 3x load capacity = fewer & smaller pads • Very high impact strength 90 kJ/m² • Pad size to suit design loads • For all sizes of tankers & barges • Typically less than 40mm thickness • Gaps are minimal (1-2mm). Minimum energy impact when tank moves • Simple support structure | <ul style="list-style-type: none"> • Low load capacity = needs many pads • Very low impact strength = brittle 0.24 kJ/m² • Standard sizes • Limited to small tankers • Thickness needs to be 75mm • Traditional “cage design” needs large expansion gaps, resulting in high impact slamming • Complex support structure |
| Health & Safety | <ul style="list-style-type: none"> • Not listed on Inventory of Hazardous Materials • Not considered hazardous | <ul style="list-style-type: none"> • Needs listing in Inventory of Hazardous Materials • Contains crystalline quartz— World Health Organization known carcinogen • Sliding in use will cause respirable crystalline silica to be released |
| Durability | <ul style="list-style-type: none"> • LIFETIME GUARANTEE • Maintenance free • Will not corrode or seize • Minimal wear in service • Never replaced in service • Designed as a “fit & forget” system • Low friction, high load bearing material  | <ul style="list-style-type: none"> • Requires regular maintenance & repair • Absorbs moisture, rapid heating can cause cracks • Low impact strength = brittle = failure in use • Requires big clearances = high impact loads • High friction causes high stress in pads, thus failure in service |
| Installation | <ul style="list-style-type: none"> • Simple & quick process: Vertical Load Pitch & Roll Position tank Fit Pads Level pads Position tank Chock Fit shims (if needed) | <ul style="list-style-type: none"> • Complex Fit vertical load pads with wire Position tank Fit pitch & roll pads Remove vertical load pad wires (Cannot level pads to tank base) |
| Class Approvals | <ul style="list-style-type: none"> • Type Approved by: ABS, NK, BV, KR, LR, CCS, DNV_GL | <ul style="list-style-type: none"> • Type Approved by: None known |
| Overall System Cost | <ul style="list-style-type: none"> • Less supports = less work • Simple, quick installation • Maintenance free • Lifetime Guarantee | <ul style="list-style-type: none"> • Traditional “cage design” gives high loads • Labour intensive • Maintenance required • Regular replacement |



