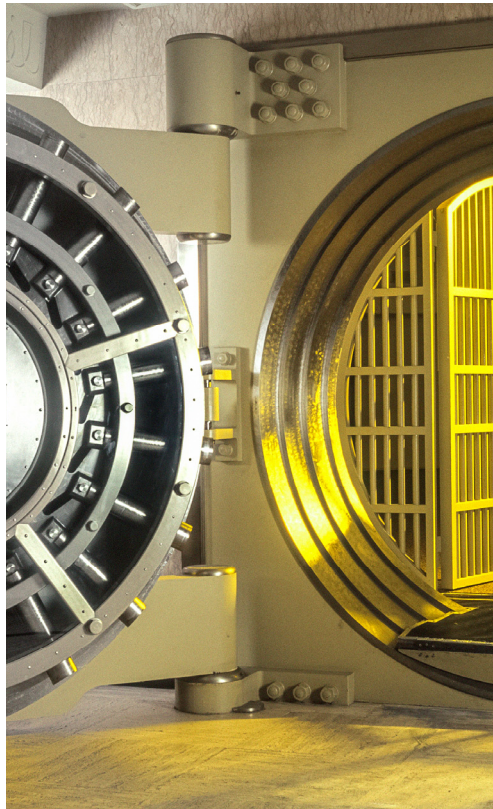




# TENMAT

ADVANCED MATERIALS



## FERO SAFE



A **TENMAT** Brand



# NEXT GENERATION MATERIAL FOR DEFENDING PHYSICAL SECURITY PRODUCTS

# PRODUCT INFORMATION

*FEROSAFE* is the next generation material for defending security products from physical threats.

*FEROSAFE* is a weldable composite material that effectively resists high power angle grinders and drills at lower thicknesses and weights than what is possible with conventional materials. The material is therefore well suited to increase security performance on safes, locks and any other security devices without increasing weight or altering overall dimensions.

Being weldable with standard welding equipment ensures a high degree of flexibility, cost efficient manufacturing and secure fastening with no specialist training required.



✓ Resistant to angle grinder attacks



✓ Resistant to carbide tipped drills



✓ Resistant to diamond discs

## Typical Applications

- Safes
- ATMs
- Security Doors
- Lock Boxes

## Customer Benefits

- Use conventional welding equipment
- Reduce weight of product
- Increase safety performance without adding weight
- Effectively prevent any grinding or drilling attacks

## Key Features

- Weldable
- Highly resistant to angle grinders
- Highly resistant to drills
- Relatively tough to prevent chiselling

## Availability

Thickness (mm)	Width (mm)	Length (mm)
4	8	40
4	15	40
4	25	60
4	40	40
4	8	200
4	15	200
4	25	200
4	60	200
4	200	200

Other sizes are available on request. We can also supply bespoke 2D shapes. Please contact us for more information.

# WELDING

Welding *FEROSAFE* creates a strong joint, capable of reaching 360 MPa shear strength which is stronger than a typical braze joint.

Welding *FEROSAFE* maintains hardness of host metal, with a minimal heat affected zone. By maintaining hardness of the underlying steel, the resilience of the entire system is ensured.

*FEROSAFE* is a very effective product when used and welded correctly.

Below are some guidelines to assist you:

- MIG/stick weld, 120 amps, dissimilar wire/rod gives best result.
- Clamp tile down when tacking,
- Tack in the middle of tile length if needed, weld outwards from the middle,
- Don't hesitate when welding, so as to avoid heat build up,
- Do no quench after welding,
- If risk of weld exposure to threat, chamfer host metal so welds can be hidden.

## PHYSICAL PROPERTIES

PROPERTY	UNITS	FEROSAFE
Ultimate Tensile Strength	MPa	110
Ultimate Compressive Strength	MPa	1850
Flexural Strength	MPa	440
Coefficient of Thermal Expansion	W / mK	12-14 x 10 <sup>6</sup>
Bulk Hardness	HRC	45-55
Bulk Density	g/ c <sup>3</sup>	8.7-9.3



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