

mtl group

your partner in armour

Armour Plate Processing

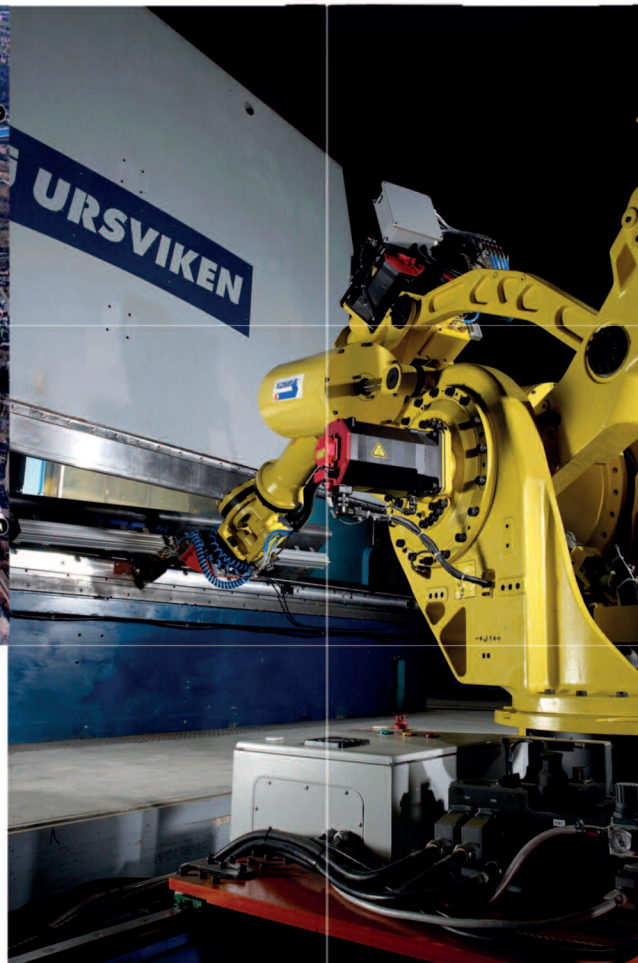


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Accreditation.

We are accredited to the global industry standards which include ISO 9001:2008, ISO 3834-2, TL 2350-000 and SC21.



MTL Group is a high technology business with a global reputation in the defence sector. We co-operate with prime contractors, providing a design and manufacturing capability.

Our philosophy is to improve the design to provide the customer with a lighter, stronger and better protected structure at a lower cost.

We handle multi-million pound contracts exporting to more than 40 countries worldwide. Major customers include BAE Systems, Rheinmetall and General Dynamics who we work in close partnership with to produce critical parts for military applications.

We provide our customers with a project management capability that enables us to undertake multi-million pound contracts. These contracts may include a full range of services that encompass design support to volume manufacture and supply chain management.

Our manufacturing capacity allows us to process in excess of 30,000 tonnes of steel per annum. We provide our customers with an enhanced value proposition.

Manufacturing Facility.
MTL Group HQ is a modern 30,000 Sq. m, manufacturing facility based on a 13 hectare secure site.

Our robotic press is four times faster than a manual press. The angle checking device allows us to bend to tight tolerances with consistent accuracy and efficiency.

DFM

**Lighter.
Stronger.
More Cost Effective.**

Six Sigma.

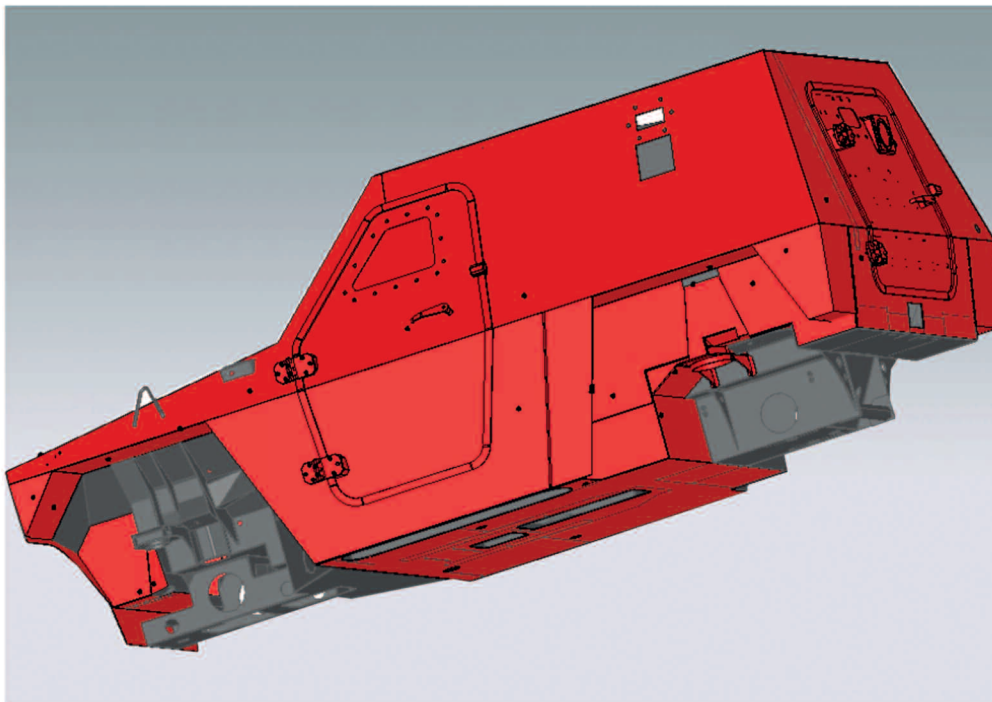
MTL Group is committed to Six Sigma and the techniques of lean manufacturing. Our processes are continually and systematically monitored and analysed to reduce process variation and eliminate waste.

Our DFM (Design For Manufacture) team has over 25 years experience in both design and blast/ballistic protection. At MTL Group we utilise the latest design and simulation software and can accommodate CATIA, SOLIDWORKS etc.

Most successful businesses follow the path of continuous improvement, introducing efficiency gains through the design of the product and the manufacturing process. We have great depth to our experience in supporting worldwide defence prime contractors in delivering such efficiency gains.

Our dedicated design team works together with your engineering and manufacturing experts to assist you in achieving lighter, stronger and lower cost products.

MTL Group is highly regarded by many of the major defence OEMs as the market leader. These OEMs have realised several million pounds worth of savings over the past few years through our DFM service.



DFM Project 1

Armoured Hull

- Original design in multiple pieces
- High welding content
- Complicated assembly process

DFM Review

- Piece parts reduced by 30%
- Increased protection
- Reduced cost and weight

Cold Forming Armour.
Our knowledge and many years of experience of cold forming armoured steels allows us to work with our customer to reduce the number of parts by bending areas which have historically been welded. We have the capability to bend components greater than 7m long.



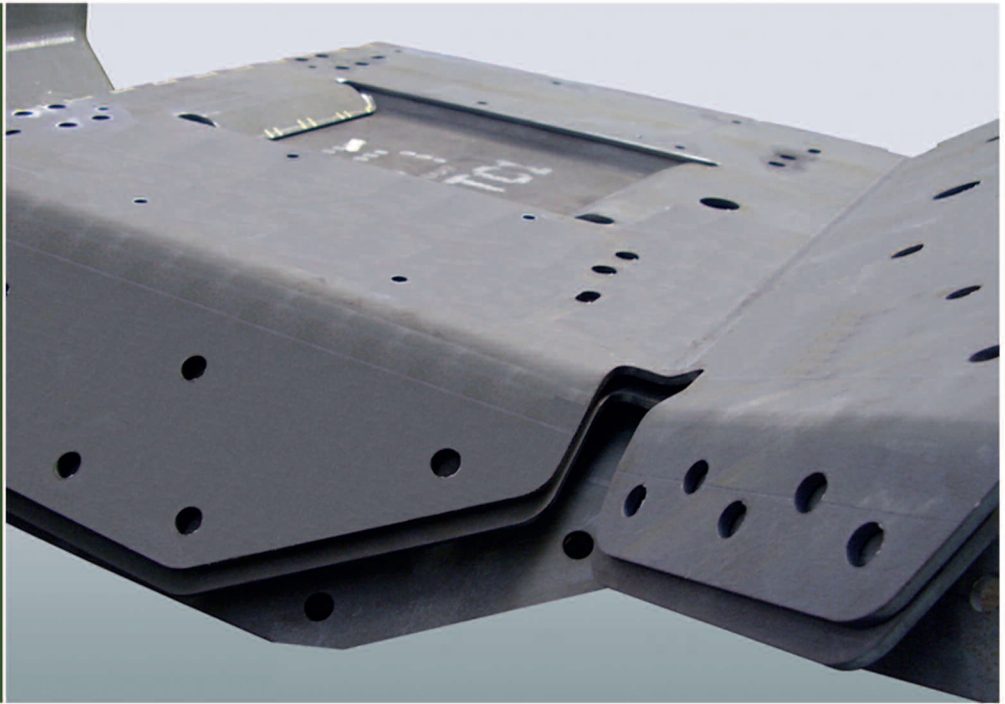
DFM Project 2

Firewall

- Original design in multiple pieces
- Tolerance hard to achieve
- Lower protection due to welding

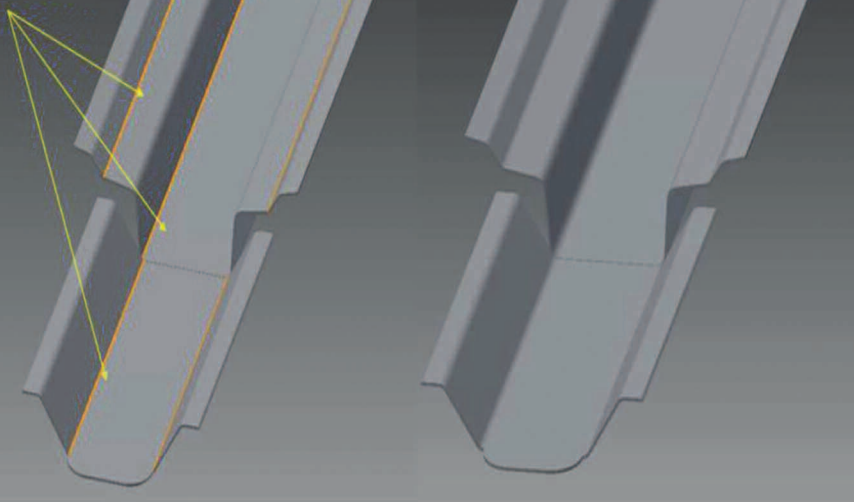
DFM Review

- New design now in 1 piece
- Enhanced protection
- Reduced cost and weight



“The challenge is to increase the protection level by reducing the weight and the cost”

**Welded
Joints**



DFM Project 3

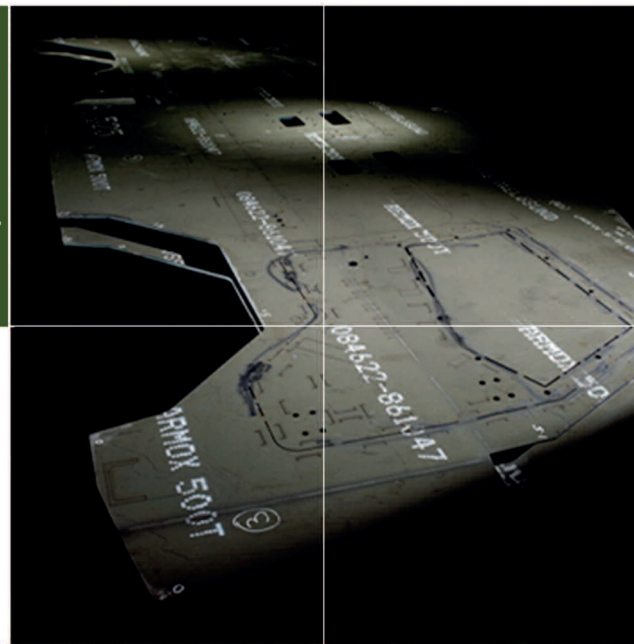
8x8 Vehicle Hull Floor

- Originally in 11 pieces
- Multiple weak points
- Expensive to manufacture

DFM Review

- New design now in 1 piece
- Protection levels increased
- Reduced cost and weight

Vehicle Kits.
MTL Group has won several high profile contracts to supply specialist armoured fabrications. Projects typically use a variety of our facilities, including waterjet and laser cutting, machining, fabrication, painting and kitting.



Material Processing. Our twelve cutting systems have a capacity in excess of 2,000 hours per week. Our wide range of industry leading machines means MTL Group is capable of handling all sizes and types of job, from carbon steels to aluminium, working 24 hours a day, seven days a week. Our bevel laser is capable of cutting weld preps up to +/-50 degrees. This machine can cut parts up to 20m long x 3.5m wide x 25mm thick. Our 12m x 3m waterjet cuts the hardest materials without any heat thus eliminating any changes in material properties.

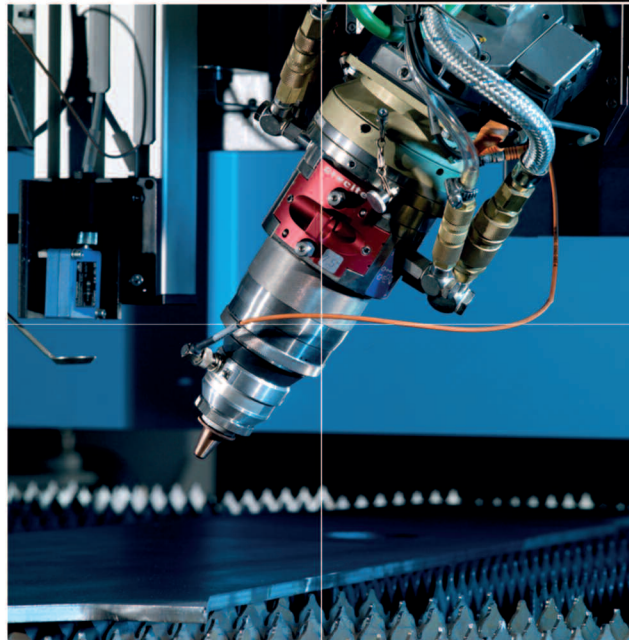
Pressing. Our range of CNC press braking equipment can press components up to 7.3m wide. We have invested in a 640 tonne CNC press brake with a 600kg capacity robotic handling system. This installation, which is the largest of its kind in the world, allows MTL Group to produce components more accurately, faster and more cost effectively than traditional methods.

Fabrication. We have invested in the latest equipment that enables us to provide high volume fabrications; our robotic and semi automated welding cells allow us to handle armoured hulls, turrets and blast floors up to 10 metres long. We have more than 100 coded welders and we are accredited to ISO 3834-2 and TL 2350-000.

Machining. We have a range of CNC machining centres giving us the capability to handle entire projects in house. The machines are capable of machining materials upto 600HB.

Quality. We are committed to quality and dedicated to investing in the latest technology to meet our customers' high standards and specific requirements. With ISO accreditation we can provide our customers with FAIR, ISIR and PPAP documentation.

Surface Treatment. We can supply a range of surface treatments including shot blasting, painting, powder coating and zinc plating to meet customers' requirements.



Our Messer bevel laser is the largest in the UK and is able to cut bevel weld preps up to 20m long and 25mm thick, offering major cost savings to our customers.

Stock.

We have a wide range of armour steel in stock at any one time, with an extensive range of high technology machinery to maximise the use of armour plate. We also have experience of working with the hardest armour plate materials on the market.



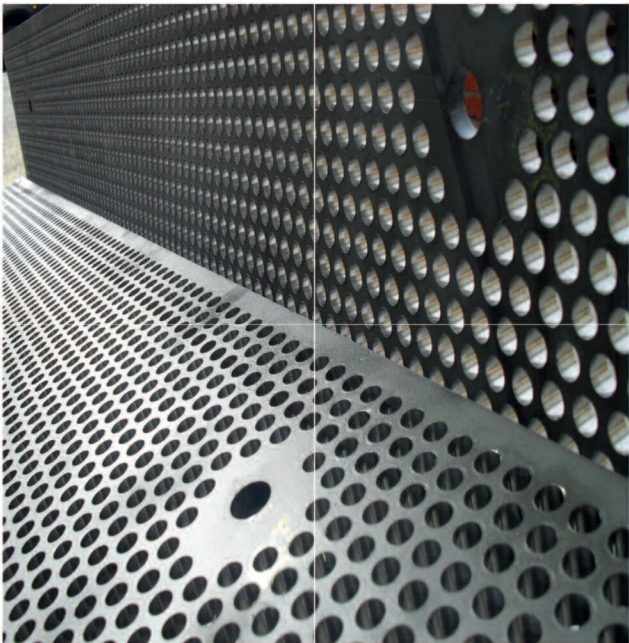
IMPAS[®]

Weight Saving Protection

IMPAS has been developed as a light weight steel armour solution for both hull build and add-on armour panels. IMPAS comes in various formats:

- IMPAS SOLID SPACED ARMOUR
- IMPAS LITE PERFORATED PANELS
- IMPAS ADVANCE

IMPAS has an excellent multi hit capability compared with ceramic and composite materials. Bespoke panels can be manufactured to any shape or size and delivered rapidly with no restrictions or minimum order quantities. Our systems are currently in service on various vehicle platforms around the world.



Threat Level	Normal Protection	IMPAS	Weight Saving
EN1522 FB7	14.5mm thick 500HB	11mm thick 500HB	27.47kg per sqm
	113.82kg per sqm	86.35kg per sqm	
STANAG 4569 Level 1	9mm thick 500HB	7mm thick 500HB	15.70kg per sqm
	70.65kg per sqm	54.95kg per sqm	
STANAG 4569 Level 2	12.2mm thick 500HB	9mm thick 500HB	25.12kg per sqm
	95.77kg per sqm	70.65kg per sqm	
STANAG 4569 Level 3	22mm thick 500HB	IMPAS ADVANCE	71.7kg per sqm
	172.7kg per sqm	*101kg per sqm	

* includes 6.5mm 500HB hull material

IMPAS SOLID



EN 1522 FB7
STANAG LEVEL 1
STANAG LEVEL 2

IMPAS ADVANCE



STANAG LEVEL 3

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