





Guardian® is a steel that provides resistance to ballistic impact and explosions. Its advanced protection capabilities are validated by numerous independent and accredited laboratories.

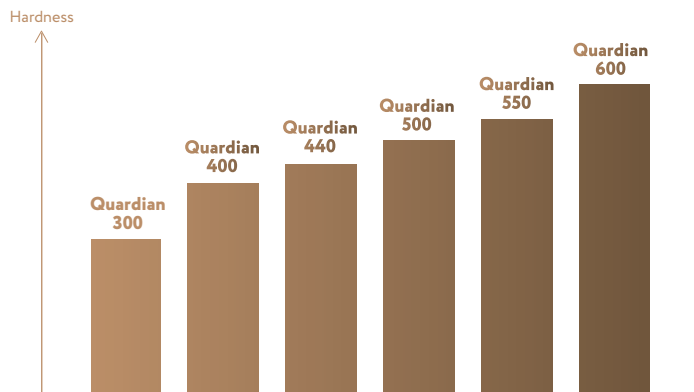
Guardian® is produced in Belgium by NLMK Clabecq, whose expertise in rolling thin steel plates has been recognised for many years.

The unique layout of the rolling mill, along with the modernity and the technicality of the Quenching & Tempering unit, and the quality of the slabs, all combine to produce steel plates with exceptional thickness tolerances, surface finish and flatness. These characteristics give it the advantage of being easily workable.



1. HIGH PROTECTION STEEL

Guardian® ballistic properties are the result of specific chemistries developed in house, a unique process rolling and quenching and tempering treatments in our ultra-high-performance facilities. The different proposed combinations of hardness and tensile strength ensure that you will always find the Guardian® adapted to your desired protection.



Dimensional range

Thickness: 3.6 – 50 mm
Width: 1500 – 3100 mm
Length: up to 16 m

As a specialist of thin steel plates, NLMK Clabecq offers Guardian® plates in large widths and in thicknesses from **3.6mm**.

BELGIAN rolling



Guardian® is rolled and heat treated by NLMK Clabecq in Belgium (Iltre).
A real quality label!



2. FEEL SAFE

To ensure that Quardian® is compliant with different international ballistic standards, NLMK Clabecq conducts numerous tests in independent laboratories, which are recognised worldwide.

So when you use Quardian®, you can be sure that everything has been done to make you feel safe.

The most widely used standards that define the resistance of our steels are (among others)*:

- EN 1522 (FB2 - FB7)
- VPAM (L6 - L9)
- STANAG 4569 AEP-55
- NFA 36800
- MIL-DTL-46100E
- ABNT 15000

(* other certifications upon request)

NLMK Clabecq engineers are always at your service to provide the right Quardian® to match your specific requirements.

Laboratory tests:
confirmed reliability



Multihit protection:
a major advantage of Quardian®





3. YOUR INCREASED WORKABILITY ...

Processing made easy

Take advantage of the superior workability of Guardian®. At every processing stage, its performance contributes to increase your productivity. It also opens the door to new, more efficient, designs...

CUTTING



MACHINING



BENDING



WELDING



Unique combination of steel characteristics

This easy workability has been made possible thanks to the unique combination of three important steel characteristics:

- **FLATNESS**

Guardian® fulfils the highest demands (up to 1/2 of Class S as per EN 10029), thanks to the latest generation equipment, including levellers with independent driving rolls

- **SURFACE FINISH**

The rolling through our 4-stand continuous finishing mill and the reheating of the plate under controlled atmosphere (austenitisation furnace with nitrogen) guarantee you to get a product with improved surface finish

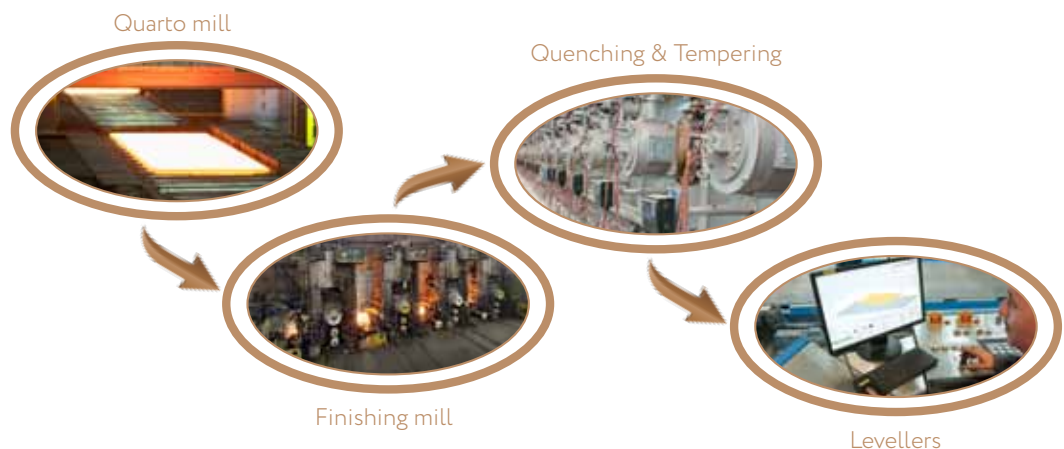
- **THICKNESS TOLERANCES**

The tightest thickness tolerances can be guaranteed thanks to the unique combination of the Quarto mill and 4-stand continuous finishing mill on the same line

... THANKS TO NLMK CLABECQ'S PROCESS

High-performance mill

NLMK Clabecq boasts sophisticated production tools for efficient rolling and heat treatment. Unique in the industry, it has the reversible quarto mill, the four-stand continuous finishing line and the new generation accelerated cooling system, all on the same line. This special layout allows high productivity for low-thickness steel plates, together with superior mechanical characteristics, top-class surface finish and flatness. The modern Quenching & Tempering line, built using the latest heat treatment technologies, ensures the production of high added-value steels.



Efficient management systems

To guarantee high standards of quality to its partners and customers, NLMK Clabecq works every day to develop and maintain efficiency at all stages. The mill carries out audits on a regular basis to ensure that its management systems are adhered to.

External independent offices have verified that these are in place and so have granted various certifications to NLMK Clabecq. Among these, the AQAP 2110 demonstrates its ability to produce Guardian® under the strictest conditions.





4. APPLICATIONS

Guardian® can be used in numerous applications to protect life where it may be threatened by gunshots or explosions. It can also be used to protect valuable goods.

Life protection

- Armoured civil cars
- Patrol vehicles
- Armoured personal carrier
- Anti-riot trucks
- M.R.A.P
- Protected buildings (shelters, guardhouses)

Valuables protection

- Secured containers
- Valuable transporters
- Safe
- Cash & Transit

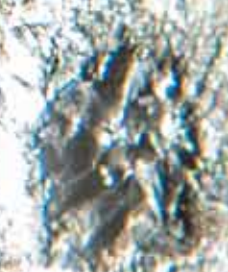
Others

- Shooting stands
- Ship and frigate



Steel: Guardian 500
Thickness: 6.5mm
Protection: FB6

4.



5.

6.

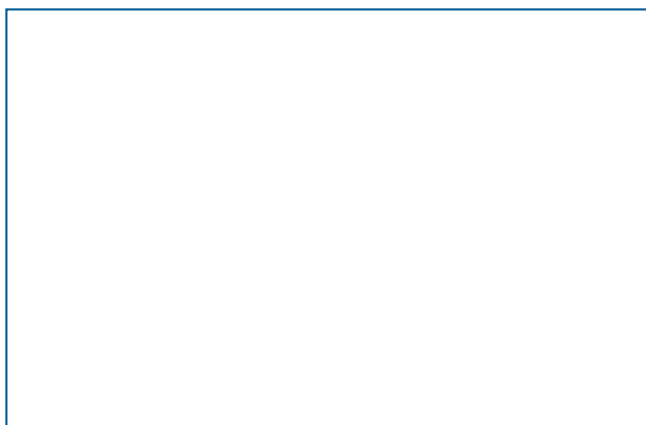


5. AVAILABILITY

Guardian® can be delivered worldwide (sometimes prior approval from local authorities may be required), on special order directly to the mill. If you have immediate requirements, we will also be able to deliver you plates from our local stocks with no delay.

The Guardian® commercial network can provide you with more information about delivery times and technical recommendations.





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