

NLMK Clabecq “Weldable” certified steel

To convince its customers of the quality of its new abrasion-resistant and high-elasticity steel, the Belgian steelmaker NLMK Clabecq had to have a number of criteria certified, including the weldability of its products.



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OUR CLIENT

Corporate name
NLMK Clabecq

Activity
manufactures steel plates with thicknesses ranging from 3 to 120 mm for the construction, shipbuilding and offshore industries as well as for pipe lines and storage tanks

Sales turnover
450 million euros

Workforce
550

Faced with increasingly strong worldwide competition, European steelmakers are frequently looking to diversify with high-quality products in niche markets – but they still have to convince customers of the quality of the steel. The Belgian steelmaker NLMK Clabecq, renowned for its steel plate ranging in thickness from 3 to 120 mm, found itself faced by this very question. The company started a new thermal processing unit in January 2011 for the production of abrasion-resistant steel (Quard for mining machinery, truck bodies and bulldozer blades) with high elasticity (Quend

for telescopic crane arms, for example).

Cast-iron recognition

“Weldability was one of the quality criteria demanded by our customers”, explains the process engineer Xavier Cornet. “But we needed the recognition of an organisation with irrefutable credentials to prove that our products were as easy to weld as our rivals without customers having to change their processes. And that is why we turned to Cetim.”

The test programme that was set up focused first on cold cracking with self-restraint tests. These were conducted using two processes (covered electrode and MAG welding),

which made it possible to define the pre-heating temperature for the two abrasion-resistant grades of steel (400 to 450 HB). The second test aimed at defining the energy range to use with the MAG process on a fillet weld depending on its thickness. The low setting indicated the risk threshold for cold cracking, with the high setting marking the limit for avoiding the softening of the weld.

Finally, tests carried out with two types of different energy made it possible to verify the mechanical properties on a welded joint with tensile, bending, charpy-V notch, etc. tests.

All the tests were summarised in the form of graphics to enhance the technical data sheets issued by NLMK Clabecq to its customers.

Cetim' asset

Cetim is recognised for engineering



installations. Its rulings are authoritative. Its expertise in welding techniques

and its experience in the industry mean that it speaks the same language as manufacturers and can offer test programmes that comply with their demands.