

Yellow goods



1 Description and advantages

NLMK Europe proposes a large range of Advanced High Strength Steels (AHSS) dedicated for earth moving, mining and roadbuilding equipment. Their use is recommended where high resistance is needed and to prevent accelerated fatigue in severe environments. They offer good formability properties. The high potential of these steels facilitates the development of innovative designs.

The **AHSS** steels proposed by NLMK Europe for the yellow goods industry include the following grades:

- for cold forming:

- Wear resistant steels (QUARD);
- High Strength low ALLOYED (HSLA).

- for heat treatment:

- HIGH CARBON steels;
- BORON steels;
- ALLOYED steels.

NLMK Europe proposes also **other steels** for specific use in the structure or as component:

- Construction Grade;
- Mild steel and deep drawing grades for panels and cabins;
- Pressure grades for tanks and storage.

2 Product and service range

To meet all your requirements, NLMK Europe proposes a very large range of products and services:

- Ingots and Heavy plates;
- Hot Rolled (HR) products;
- Cold Rolled (CR) products;
- Electro-Zinc (EZ) products;
- Hot Dip Galvanised (HDG) products;
- Organic coated products;
- Integrated Steel Service network.

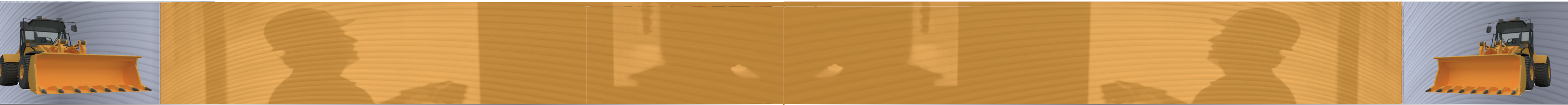
3 Standards and specifications

Without particular requirement of the user, our products are processed according to Euronorm standards. On your request, our specialists will elaborate the material according to your own technical specifications.

Quality Certifications within the Group :

- ISO 9001 for La Louvière, Clabecq, Strasbourg & Beautor
- ISO TS 16949 for La Louvière, Strasbourg & Beautor
- ISO 14001 for DanSteel A/S, Strasbourg et Beautor
- ISO 18001 for Strasbourg





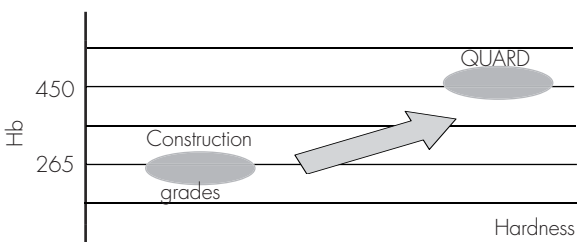
ADVANCED HIGH STRENGTH STEELS (AHSS)

Uses:

- recommended for **cold forming** applications;
- when energy absorption, fatigue and weight performance must be achieved.

Grades:

- QUARD @ 400 - 450 HB (abrasion resistant);
- S460MC - S500MC - S550MC;
- S600MC - S650MC - S700MC.



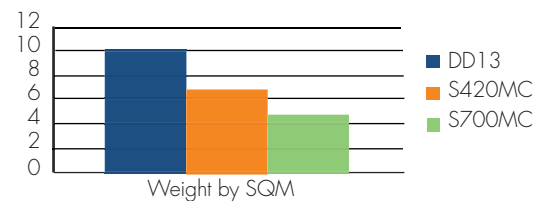
HIGH STRENGTH LOW ALLOYED STEELS (HSLA)

Uses:

- recommended for **cold forming** applications;
- when weight reduction and also higher resistance is needed.

Grades:

- S315MC - S355MC - S420MC;
- HC340 - 380 - 420LA.



MILD STEELS AND EXTRA DEEP DRAWING STEELS (MS/DD)

Uses:

- when deformability is linked to extreme and severe design and/or applications.

Grades:

- DD11 - 12 - 13 - 14;
- DC01 - 04 - 05 - 06;
- Rephosphorised;
- Bake Hardening.

INNOVATION IN STEEL for **YELLOW GOODS**



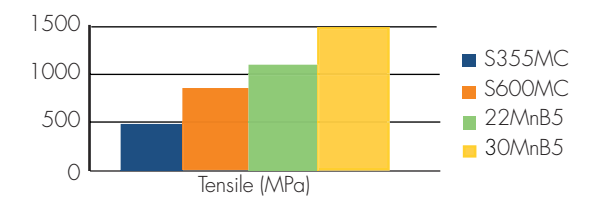
CARBON, BORON AND ALLOYED STEELS

Uses:

- recommended for **heat treatment** operations and **hot forming** applications;
- when extreme resistance to wear and also energy absorption must be reached.

Grades:

- C40 - 45 - 50 - 55 - 60;
- 20 - 30 - 38MnB5;
- 27 - 33 - 39 MnCRB5;
- 25 - 34 - 42 - 50 CRMO4;
- 51CRV4.



SPECIFIC PRODUCTS :

- QUARD : Developed by NIMK Clabecq, a large range of wear resistant steels up to 450HB is available for parts entering in wear and crushing applications;
- S700MC : TM grade developed in heavy plate dedicated to high resistance for cranes application.

YELLOW GOODS APPLICATIONS :

- Chassis, beams, booms, WEAR parts;
- Powertrain, suspensions and braking systems;
- Seats and mechanisms;
- Security parts;
- Wheels, transmissions...





4 Technical information

As the workability differs from steel to steel, it is recommended to observe elementary precautions and to strictly follow the instruction given in the norms and in the technical guides before using advanced techniques for cutting, welding, forming, ...

Use and processing of Advanced High Strength Steels (AHSS) in substitution of conventional mild or low alloyed steels is subjected to prior analysis, such as static and dynamic calculations or energy absorption simulations.

Our technical experts are at your disposal for any demand or requirement.

Read more about technical aspects in the individual product datasheets available via our website or through our sales representatives.

5 Network



Thanks to an proven and well established production and distribution network, we bring you the global solution for your global activities.

Moreover, we can reply on of a precise and punctuous delivery wherever you want in Europe and in the rest of the world.

6 Contacts



Our experts stay at your disposal to propose you the right answer to your needs. Don't hesitate to contact them at the sales and production headquarters:

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