

High strength steels

NAXTRA 700

S 690 QL1 - EN 10025-6

XABO 890

S 890 QL - EN 10025-6

XABO 960

S 960 QL - EN 10025-6

XABO 1100

Quenched and tempered steels with excellent tensile strength combined with good toughness, forgeability and weldability.

Applications

- Lifting equipments
- Earth moving equipments
- Road systems (overpasses, bridges, upper roads)
- Storing (tanks)
- Building
- Transport of material
- Others

Mechanical properties

| STEEL GRADE | Thickness mm | Yield Point N/mm ² min | | Tensile strength N/mm ² min | Elongation A% | IMPACT TEST | | |
|-------------|-----------------|---|------|--|------------------|-------------|---------------------|----------------------|
| | | | | | | TEMP °C | KV Long. >min | KV Trasv. >min |
| NAXTRA 700 | ≤ 65 | 770 | 940 | 700 | 14 | -60 | 30 | 27 |
| NAXTRA 700 | > 65 | 760 | 930 | 650 | 14 | -60 | 30 | 27 |
| XABO 890 | ≤ 50 | 940 | 1100 | 890 | 12 | -40 | 30 | 27 |
| XABO 890 | > 50 | 880 | 1100 | 830 | 12 | -40 | 30 | 27 |
| XABO 960 | ≤ 50 | 980 | 1150 | 960 | 12 | -40 | 30 | 27 |
| XABO 960 | > 50 | 970 | 1100 | 920 | 12 | -40 | 30 | 27 |
| XABO 1100 | ≤ 30 | 1200 | 1500 | 1100 | 8 | -40 | 30 | 27 |

Available Thickness

| | |
|------------|---------------|
| NAXTRA 700 | 4 mm - 100 mm |
| XABO890 | 4 mm - 60 mm |
| XABO960 | 4 mm - 60 mm |
| XABO1100 | 4 mm - 30 mm |

High strength steels

NAXTRA 700
S 690 QL1 - EN 10025-6

XABO 890
S 890 QL - EN 10025-6

XABO 960
S 960 QL - EN 10025-6

XABO 1100

Chemical composition - %

| XABO 890 - XABO 960 - XABO 1100 (*) | | | | | | | | |
|-------------------------------------|---------|---------|-----------|-----------|---------|---------|---------|----------|
| C max | Si max | Mn max | P max | S max | Cr max | Mo max | Ni max | V max |
| 0.18 | 0.5 | 1.6 | 0.020 | 0.010 | 0.8 | 0.7 | 2.0 | 0.1 |
| 0.20 (*) | 0.5 (*) | 1.7 (*) | 0.020 (*) | 0.005 (*) | 1.5 (*) | 0.7 (*) | 2.5 (*) | 0.12 (*) |

| NAXTRA M700 | | | | | | |
|-------------|--------|--------|-------|-------|--------|--------|
| C max | Si max | Mn max | P max | S max | Cr max | Mo max |
| 0.20 | 0.80 | 1.60 | 0.020 | 0.010 | 1.50 | 0.60 |

Cold forming

Cold treatment (bending, calendering, shearing, punching) of steel plates NAXTRA 700 can be done without difficulties, but some procedures must be strictly followed. These steels, having a particular high yield point, need a higher power than the one required for a normal carbon steel to obtain same results.

For cold bending, it is important to apply to the minimum bending radius indicated on the undermentioned table, which are valid if mandril's axis is perpendicular to the final rolling direction. In case of bending done with mandril's axis parallel to the final rolling direction, it will be necessary to increase the above indicated value.

For shearing and punching too, it is necessary to consider the high strength of material, therefore the cutting capacity will be reduced.

| QUALITY | thk mm | Minimum bending radius |
|------------|--------|------------------------|
| NAXTRA 700 | 25-50 | 3A |
| NAXTRA 700 | > 50 | 3A |

Hot forming

Hot Treatment (bending and forming of NAXTRA) can be done following the usual procedures used for carbon and alloy steels.

Due to the particular supplying status of NAXTRA, the mechanical properties have to be reset by a thermic treatment after hot processing, in case this is effected at a higher temperature than the tempering.

It is recommended that the heating temperature does not exceed 1000°C.

Flame cutting

Flame cutting does not require particular technics. However the cut edge will show a high hardness limited to a minimum depth.

This is to be taken into consideration if later the cut edge has to be mechanically treated.

In this case edge must be tempered, but temperature must not exceed 600°C.

Welding

NAXTRA can be perfectly welded if electrodes, fluxes and welding technics are properly used. These products can be easily found in Italy and abroad.

In order to form XABO 890, XABO 960 and XABO 1100 please see TKS technical instructions to be required to commercial department.

NAXTRA 70 may contain Ni, Nb, Ti, V, and B within the limits of EN 10025-6