Abrasion resistant steels

XAR 400
XAR 450
XAR 500
RAEX 400
RAEX 450
RAEX 500

Abrasion resistant tempered steels with high wear and abrasion resistance.

Mechanical properties

STEEL GRADE	Hardness HB *average value*	RM *N/mm²*	A%
XAR 400	400	1000-1250	10
XAR 450	450	1200-1400	10
XAR 500	500	1300-1600	9
RAEX 400	400	1100-1250	10
RAEX 450	460	1250-1450	9
RAEX 500	500	1400-1650	8

RM value are indicated only as reference

Chemical composition - %

STEEL GRADE	C *max*	Si *max*	Mn *max*	P *max*	S *max*	Cr *max*	Mo *max*	B *max*	CE *average v.*
XAR 400	0.20	0.80	1.50	0.020	0.007	1.0	0.50	0.005	0.51
XAR 450	0.22	0.80	1.50	0.020	0.007	1.3	0.50	0.005	0.55
XAR 500	0.28	0.80	1.50	0.025	0.010	1.0	0.50	0.005	0.62
RAEX 400	0.16	0.5	1.6	0.025	0.010	1.2	0.25	0.005	0.48
RAEX 450	0.23	0.5	1.6	0.025	0.010	1.2	0.25	0.005	0.52
RAEX 500	0,27	0.5	1.6	0,025	0,010	1,2	0,25	0,005	0,55

$$CE = C + \frac{Mn}{6} + \frac{Cr+Mo+V}{5} + \frac{Ni+Cu}{15}$$

Applications

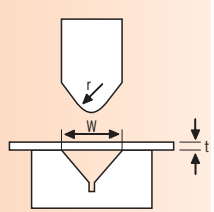
- Earth moving equipments
- Gravel and stones trucks
- Grinding equipments
- Mines equipments
- Scrap balers
- Box / vans

Range of available thickness

XAR 400	4 mm - 100 mm
XAR 450	4 mm - 15 mm
XAR 500	4 mm - 80 mm
RAEX 400	2 mm - 8 mm
RAEX 450	2.5 mm - 8 mm
RAEX 500	3 mm - 6 mm

Bending test - *bending radius and mandril's width for cold bending*

QUALITY	thickness [mm]	r/t ⊥(1)	r/t ∥(2)	W(3)/t ⊥(1)	W(3)/t ∥(2)
XAR 400 RAEX 400	8 < t ≤ 20 t ≤ 20	3,0 upon request	4,0 upon request	10,0 upon request	10,0 upon request
XAR 450 RAEX 450	t ≤ 8 8 < t ≤ 15 t > 15	4,0 4,5 upon request	4,5 5,0 upon request	10,0 12,0 upon request	12,0 12,0 upon request
XAR 500 RAEX 500	upon request				
XAR 600	upon request				



1) Bending line transversal to rolling direction
2) Bending line parallel to rolling direction
3) W= recommended width for wrinkles with 3 rollers 2r + 5t

AQ acciai di qualità

Edition 03-2017

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Forming

Despite their very high hardness, XAR 400, XAR 450 and XAR 500 can be bended.

It is recommended to bend material slowly and perpendicularly to rolling direction: it is also useful to trim and to preheat flame cut edges (120-200°C).

Using suitable machines and tools, it is possible to obtain drilling, counterrsink,...

Flame cutting

Flame cutting is possible without any difficulty in case of thickness over 25mm the cut edge should be preheated.

Welding

As tempered steel is involved following instructions have to be respected:

- proper use of material;
- removal of humidity;
- suitable grade of temperature.