

Quenched & tempered and case hardened steel



**Metinvest Trameal
Ferriera Valsider
Spartan UK**

EN ISO 683-1

Non alloy steels for Q&T Cert. 3.1	Thickness (mm)	Width (mm)¹	Weight (tons)²	Delivery condition
C45	8-150	3150 max	3,0-15,0	AR
C45+N	8-150	3150 max	3,0-15,0	NF
C45E	8-150	3150 max	3,0-15,0	AR
C45E+A	8-150	3150 max	3,0-15,0	A
C45E+N	8-150	3150 max	3,0-15,0	NF

EN ISO 683-2

Alloy steels for Q&T

Cert. 3.1 only with ladle analysis

34CrMo4	7-50	3150 max	3,0-15,0	AR - NF
34CrMo4+A	7-50	3150 max	3,0-15,0	A
42CrMo4	8-150	3150 max	3,0-15,0	AR - NF
42CrMo4+A	8-150	3150 max	3,0-15,0	A

EN ISO 683-2

Boron steels for Q&T

Cert. 3.1 only with ladle analysis

27MnCrB5-2	7-50	3150 max	3,0-15,0	AR - NF
30MnB5	7-50	3150 max	3,0-15,0	AR - NF

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Case hardened steels

Cert. 3.1 only with ladle analysis

16MnCr5	8-120	3150 max	3,0-15,0	AR
16MnCr5+N	8-150	3150 max	3,0-15,0	NF
16MnCr5+A	8-150	3150 max	3,0-15,0	A
20MnCr5	8-120	3150 max	3,0-15,0	AR
20MnCr5+N	8-150	3150 max	3,0-15,0	NF
20MnCr5+A	8-150	3150 max	3,0-15,0	A

¹ Width min/max related to thickness and heat treatment

² Minimum and maximum tonnage related to thickness and slabs availability

- AR As rolled
- NR Normalizing rolling
- NF Normalized in furnace
- A Annealed

All grades +A are supplied with 3.1 certificate only with ladle analysis and maximum hardness*.

All grades +N are supplied with 3.1 certificate with ladle analysis and mechanical properties*.

* - when required by the norm