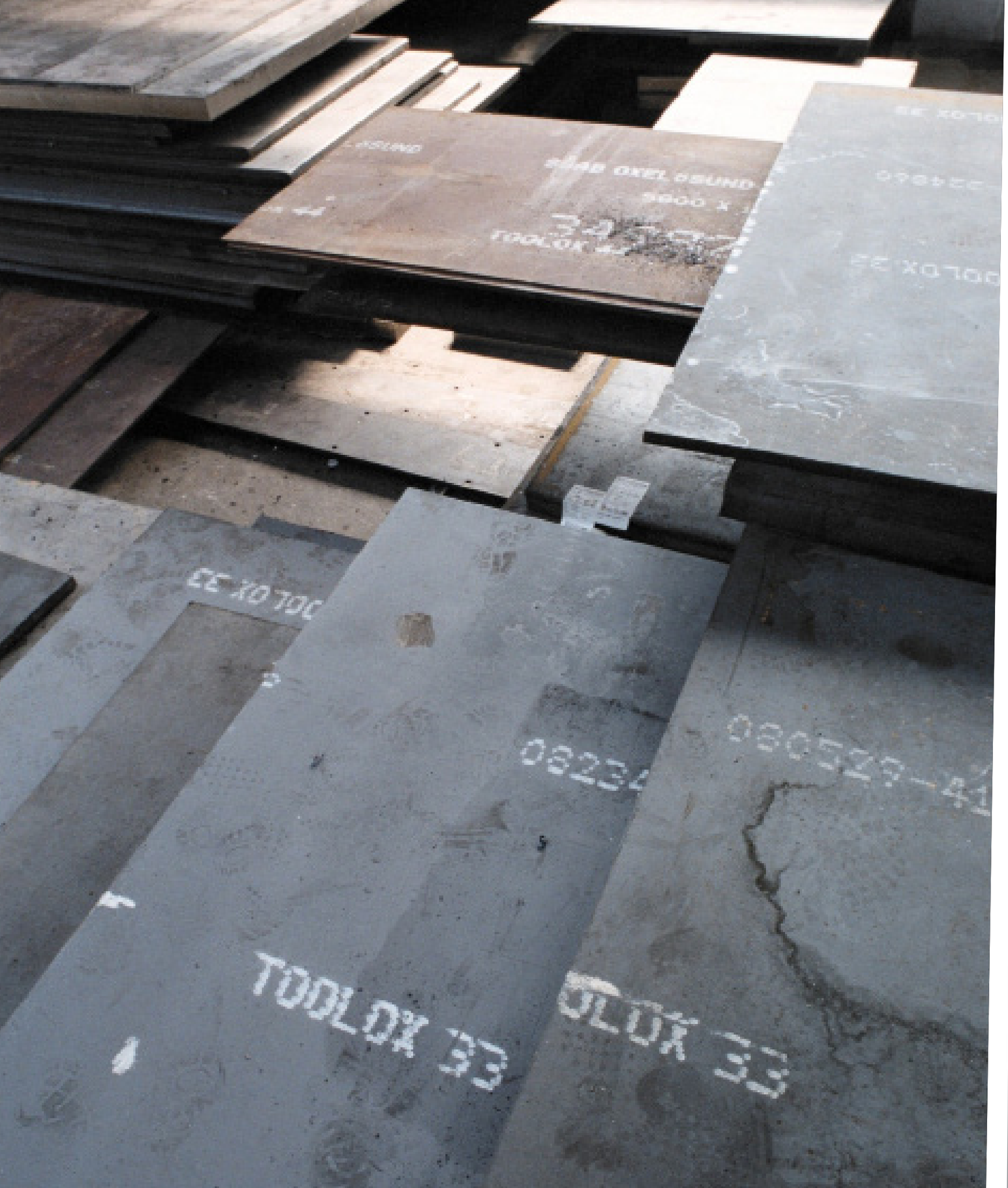
ASU
acciai speciali utensili



Efficient at meeting the needs of an ever-changing market.

Strict control of every production process.

Forward looking investments on machineries, materials and cutting-edge techniques.

Ready to meet even the most challenging demands.

We perform **strict quality controls** on the full range of material we handle.
We handle **up to 40 tons** blocks.
We perform **machining and special cuts** according to the customer's requirements.
We can prepare **grinded pieces in a few minutes,** thanks to our cutting-edge machines.
All our production processes are performed according to **ISO 9001** quality standards.
Our sales team is trained to give **technical support** to our customers.

PLASTIC MOULD STEEL

W. Nr. 1.1730

EN-ISO: C45U
DIN: -

C 0,42 ÷ 0,50
Si 0,15 ÷ 0,40
Mn 0,60 ÷ 0,80
Cr -

Mo -
V -
Ni -

This carbon steel quality finds its typical field of application in small sized dies, mould-carriers and press components where light to medium-duty work is carried out. A good compromise for the production of parts and components with thickness up to 300 mm. Applications: mechanical components; small-sized moulds for plastic industry; mould bases and carriers. Not suitable where high finishing is required.

Supply conditions: normalized | Hardness: ≤ 200 HB

W. Nr. 1.2311

EN-ISO: -
DIN: 40CrMnMo7

C 0,35 ÷ 0,45
Si 0,20 ÷ 0,40
Mn 1,30 ÷ 1,60
Cr 1,80 ÷ 2,10

Mo 0,15 ÷ 0,30
V -
Ni -

Developed for manufacturing small-medium sized moulds for plastic injection, it guarantees a good balance of mechanical properties and machinability. Very good through hardening in sections up to 600mm. Applications: plastic injection moulds where a good finish is required; casting tools for low fusing alloys; die holders, backers and bolsters; mechanical applications.

Supply conditions: quenched and tempered | Hardness: 280-330 HB

W. Nr. 1.2312

EN-ISO: -
DIN: 40CrMnMoS8-6

C 0,35 ÷ 0,45
Si 0,20 ÷ 0,40
Mn 1,30 ÷ 1,60
Cr 1,80 ÷ 2,10

Mo 0,15 ÷ 0,30
V -
Ni -

Main characteristic of this steel quality is a high Sulphur content to provide a better machinability without compromising through hardening; not suitable although for polishing or other applications requiring a fine finish. Typical applications: mould frames; plastic injection and compression moulds where low finish results are permitted; casting tools for low fusing alloys.

Supply conditions: quenched and tempered | Hardness: 280-330 HB

1.2311+Ni

C 0,38 ÷ 0,48
Si 0,20 ÷ 0,50
Mn 1,40 ÷ 1,70
Cr 1,90 ÷ 2,30

Mo 0,15 ÷ 0,30
V -
Ni 0,30 ÷ 0,60

With a lower nickel content compared to 1.2738, This Steel grade is a good balance among hardness, toughness and wear resistance across the block. Good machinability, polishing and graining are its main features. Applications: mould frames; medium-large sized moulds for automotive and home appliances sector.

Supply conditions: quenched and tempered | Hardness: 280 - 330 HB

W. Nr. 1.2738

EN-ISO: 40CrMnNiMo8-6-4
DIN: 40CrMnNiMo8-6-1

C 0,35 ÷ 0,45
Si 0,20 ÷ 0,40
Mn 1,30 ÷ 1,60
Cr 1,80 ÷ 2,10

Mo 0,15 ÷ 0,25
V -
Ni 0,90 ÷ 1,20

Developed for injection and compression moulds for plastic processing, it exhibits hardness homogeneity through large sections; good toughness and wear resistance. Especially appreciated where high-polishing and/or etch-graining are required. Applications: big sized mould frames for die casting; big sized mould bases, core and cavities for automotive and home appliance sector.

Supply conditions: quenched and tempered | Hardness: 290-340 HB

1.2738 mod.

C ≤ 0,32
Si ≤ 0,55
Mn 1,20 ÷ 1,60
Cr 1,20 ÷ 1,60

Mo ≤ 0,32
V -
Ni ≤ 0,55

A low carbon content steel developed to meet the requirements of the most demanding customers. Compared to 1.2738, it offers: shorter injection cycles times thanks to higher thermal conductivity; reduction in cutting insert cost, shorter machining time and better weldability. High hardness homogeneity, enhanced toughness and wear resistance are just some of its main features. Applications: big sized mould frames for die casting and medium-big sized injection and compression molds for plastic processing.

Supply conditions: quenched and tempered | Hardness: 280-330 HB

1.2738 mod. HH

C ≤ 0,29
Si ≤ 0,70
Mn 1,20 ÷ 1,60
Cr 1,20 ÷ 1,60

Mo ≤ 0,70
V -
Ni ≤ 1,50

A new steel grade with low carbon content with specific focus on big sized blocks of the automotive industry. Its main features are: good machinability, excellent hardenability across the block section and minimized hardness decrease from surface to core; excellent toughness and thermal conductivity. Improved quality for polishing and graining. Applications: cavities for cars' front, rear bumbers, wings fenders, dashboards and door panels, rear lights. Cavities for home appliances molds.

Supply conditions: quenched and tempered | Hardness: 320-360 HB

Lifting capacity up to 40 tons

Continues from:
plastic mould steel

Toolox® 33

C 0,22 ÷ 0,24
Si 0,60 ÷ 1,10
Mn 0,80
Cr 1,00 ÷ 1,20

Mo 0,30
V 0,10% ÷ 0,11%
Ni ≤ 1,00%

Toolox 33 is a pre-hardened engineering and tool steel exhibiting excellent mechanical properties and a structural homogeneity to be compared to ESR-Quality materials. Toolox 33 is delivered in as Q&T condition, having high impact toughness and an excellent dimensional stability after machining. Applications: engineering components; small-sized moulds for plastic/rubber industries.

Supply conditions: quenched and tempered | Hardness: 275-325 HB

Toolox® 44

C 0,32%
Si 0,60% ÷ 1,10%
Mn 0,80%
Cr 1,35%

Mo 0,80%
V 0,14%
Ni ≤ 1,00%

Toolox 44 is a pre-hardened engineering and tool steel with a nominal hardness of 450 HBW. Despite its high hardness Toolox 44 combines very good machinability with dimensional stability during machining. Toolox 44 presents very good polishing, A2 gloss, and texturing capabilities. Applications: engineering components, extrusion dies, small sized die-casting dies, cold working, plastic moulds.

Supply conditions: quenched and tempered | Hardness: 410-475 HB

+ESR

W. Nr. 1.2083

EN-ISO: X40Cr14
DIN: X42Cr13

C 0,36 ÷ 0,42
Si ≤ 1,00
Mn -
Cr 12,50 ÷ 14,50

Mo 0,15 ÷ 0,30
V -
Ni 0,30 ÷ 0,60

Martensitic stainless steel developed for plastic injection mould where high resistance to corrosion is required. Excellent machinability, high-polishing properties and good wear resistance are its qualities. Applications: moulds for corrosive plastic materials, food and packaging, medical and cosmetics items. The ESR version (electro Slag Re-melting) exhibits an improved microstructure and cleanliness of the material, thus enhancing the mechanical and finishing properties. In ESR version it is suitable for mirror polishing.

Supply conditions: annealed | Hardness: ≤ 250 HB

+ESR

W. Nr. 1.2343

EN-ISO: X37CrMoV5-1
DIN: X38CrMoV5-1

C 0,33 ÷ 0,41
Si 0,80 ÷ 1,20
Mn 0,25 ÷ 0,50
Cr 4,80 ÷ 5,50

Mo 1,10 ÷ 1,50
V 0,30 ÷ 0,50
Ni -

Chrome-molybdenum-vanadium steel designed for hot working dies and aluminium extrusion. Main features of this quality are a high resistance to thermal shock as well as to thermal fatigue, good mechanical properties and foremost excellent toughness also in hot condition. Applications: hot work. Die-casting moulds; die for the extrusion of aluminium alloys; plastic injection moulds; containers for die-casting presses. The ESR version (electro Slag Re-melting) exhibits an improved microstructure and cleanliness of the material, thus enhancing the mechanical and finishing properties.

Supply conditions: annealed | Hardness: ≤ 220 HB

+ESR

W. Nr. 1.2344

EN-ISO: X40CrMoV5-1
DIN: -

C 0,35 ÷ 0,42
Si 0,80 ÷ 1,20
Mn 0,25 ÷ 0,50
Cr 4,80 ÷ 5,50

Mo 1,20 ÷ 1,50
V 0,85 ÷ 1,15
Ni -

Highly appreciated for die-casting and extrusion of aluminium alloys for its excellent properties in hot condition and its high resistance to heat cracking. Extreme resistance up to 600° cycle temperature makes this steel suitable for dies subject to high mechanical and thermal stress. Applications: aluminium extrusion dies, dies for hot pressing, dies for low pressure aluminium gravity casting. The ESR version (electro Slag Re-melting) exhibits an improved microstructure and cleanliness of the material, thus enhancing the mechanical and finishing properties.

Supply conditions: annealed | Hardness: ≤ 220 HB

W. Nr. 1.2714

EN-ISO: 55NiCrMoV7
DIN: 56NiCrMoV7

C 0,50 ÷ 0,60
Si 0,10 ÷ 0,40
Mn 0,60 ÷ 0,90
Cr 0,80 ÷ 1,20

Mo 0,35 ÷ 0,55
V 0,05 ÷ 0,15
Ni -

A high performance material precious to many applications, especially in the hot pressing sector. Main features are high resistance to thermal fatigue, very good toughness also in hot conditions as well as deep hardening properties and good wear resistance. Very good for polishing and photo etching. Applications: mould frames, cores and dies for the hot pressing sector, shells for aluminium extrusion dies; medium-big sized plastic injection moulds.

Supply conditions: annealed | Hardness: ≤ 250 HB - Quenched and tempered | Hardness: 370 - 410 HB

Machining and special cuts

ENGINEERING STEEL

W. Nr. 1.1730

EN-ISO: C45U
DIN: -

C 0,42 ÷ 0,50
Si 0,15 ÷ 0,40
Mn 0,60 ÷ 0,80
Cr -

Mo -
V -
Ni -

This carbon steel quality finds its typical field of application in small sized dies, mould-carriers and press components where light to medium-duty work is carried out. A good compromise for the production of parts and components with thickness up to 300 mm. Applications: mechanical components; small-sized moulds for plastic industry; mould bases and carriers. Not suitable where high finishing is required.

Supply conditions: normalized | Hardness: ≤ 200 HB

W. Nr. 1.2714

EN-ISO: 55NiCrMoV7
DIN: 56NiCrMoV7

C 0,50 ÷ 0,60
Si 0,10 ÷ 0,40
Mn 0,60 ÷ 0,90
Cr 0,80 ÷ 1,20

Mo 0,35 ÷ 0,55
V 0,05 ÷ 0,15
Ni -

A high performance material precious to many applications, especially in the hot pressing sector. Main features are high resistance to thermal fatigue, very good toughness also in hot conditions as well as deep hardening properties and good wear resistance. Very good for polishing and photo etching. Applications: mould frames, cores and dies for the hot pressing sector, shells for aluminium extrusion dies; medium-big sized plastic injection moulds.

Supply conditions: annealed | Hardness: ≤ 250 HB - Quenched and tempered | Hardness: 370 - 410 HB

Toolox® 33

C 0,22 ÷ 0,24
Si 0,60 ÷ 1,10
Mn 0,80
Cr 1,00 ÷ 1,20

Mo 0,30
V 0,10% ÷ 0,11%
Ni ≤ 1,00%

Toolox 33 is a pre-hardened engineering and tool steel exhibiting excellent mechanical properties and a structural homogeneity to be compared to ESR-Quality materials. Toolox 33 is delivered in as Q&T condition, having high impact toughness and an excellent dimensional stability after machining. Applications: engineering components; small-sized moulds for plastic/rubber industries.

Supply conditions: quenched and tempered | Hardness: 275-325 HB

Toolox® 44

C 0,32%
Si 0,60% ÷ 1,10%
Mn 0,80%
Cr 1,35%

Mo 0,80%
V 0,14%
Ni ≤ 1,00%

Toolox 44 is a pre-hardened engineering and tool steel with a nominal hardness of 450 HBW. Despite its high hardness Toolox 44 combines very good machinability with dimensional stability during machining. Toolox 44 presents very good polishing, A2 gloss, and texturing capabilities. Applications: engineering components, extrusion dies, small sized die-casting dies, cold working, plastic moulds.

Supply conditions: quenched and tempered | Hardness: 410-475 HB

Strict quality controls

TOOL STEEL FOR DIE CASTING

+ESR | NADCA #207-2018

W. Nr. 1.2343

EN-ISO: X37CrMoV5-1
DIN: X38CrMoV5-1

C 0,33 ÷ 0,41
Si 0,80 ÷ 1,20
Mn 0,25 ÷ 0,50
Cr 4,80 ÷ 5,50
Mo 1,10 ÷ 1,50
V 0,30 ÷ 0,50
Ni -

Chrome-molybdenum-vanadium steel designed for hot working dies and aluminium extrusion. Main features of this quality are a high resistance to thermal shock as well as to thermal fatigue, good mechanical properties and foremost excellent toughness also in hot condition. ***Applications:*** hot work. Die-casting moulds; die for the extrusion of aluminium alloys; plastic injection moulds; containers for die-casting presses. The ESR version (electro Slag Re-melting) exhibits an improved microstructure and cleanliness of the material, thus enhancing the mechanical and finishing properties.

Supply conditions: annealed | Hardness: ≤ 220 HB

+ESR | NADCA #207-2018

W. Nr. 1.2344

EN-ISO: X40CrMoV5-1
DIN: -

C 0,35 ÷ 0,42
Si 0,80 ÷ 1,20
Mn 0,25 ÷ 0,50
Cr 4,80 ÷ 5,50
Mo 1,20 ÷ 1,50
V 0,85 ÷ 1,15
Ni -

Highly appreciated for die-casting and extrusion of aluminium alloys for its excellent properties in hot condition and its high resistance to heat cracking. Extreme resistance up to 600° cycle temperature makes this steel suitable for dies subject to high mechanical and thermal stress. Applications: aluminium extrusion dies, dies for hot pressing, dies for low pressure aluminium gravity casting. The ESR version (electro Slag Re-melting) exhibits an improved microstructure and cleanliness of the material, thus enhancing the mechanical and finishing properties.

Supply conditions: annealed | Hardness: ≤ 220 HB

+ESR | NADCA #207-2018

1.2340

C 0,30 ÷ 0,40
Si 0,10 ÷ 0,60
Mn 0,30 ÷ 0,70
Cr 4,80 ÷ 5,50
Mo 1,20 ÷ 1,50
V 0,40 ÷ 0,70
Ni -

High alloyed Chromium-Molybdenum-Vanadium steel for those special tools which have to works in a wide temperature's range without compromising the toughness. Highly appreciated in die casting for its high resistance to shock and thermal fatigue. The ESR production process drastically reduce the segregation level improving the microstructure and cleanliness of the steel enhancing the mechanical and finishing properties. Applications: hot work. Dies for hot pressing; aluminium extrusion dies ; dies for low pressure aluminium gravity casting.

Supply conditions: annealed | Hardness: ≤ 220 HB

+ESR | NADCA #207-2018

1.2367 MOD

C 0,32 ÷ 0,40
Si 0,10 ÷ 0,50
Mn 0,10 ÷ 0,20
S ≤ 0,003
Cr 4,70 ÷ 5,85
Mo 2,00 ÷ 3,30
V 0,40 ÷ 0,70
P ≤ 0,020

ASU 2367 Mod is a high performance Chromium-Molybdenum-Vanadium Hot Working Tool Steel obtained through a special 'super clean' manufacturing process and able to satisfy the most demanding requirements of a die-casting die. Its main features are: high resistance to thermal shock and to heat cracking; high toughness; excellent machinability. Main advantages: time saving in manufacturing; improvement of die life; high resistance to stress corrosion racking. Applications: die-casting moulds; aluminium extrusion dies.

Supply conditions: annealed | Hardness: ≤ 200 HB

Toolox® 44

C 0,32%
Si 0,60% ÷ 1,10%
Mn 0,80%
Cr 1,35%
Mo 0,80%
V 0,14%
Ni ≤ 1,00%

Toolox 44 is a pre-hardened engineering and tool steel with a nominal hardness of 450 HBW. Despite its high hardness Toolox 44 combines very good machinability with dimensional stability during machining. Toolox 44 presents very good polishing, A2 gloss, and texturing capabilities. Applications: engineering components, extrusion dies, small sized die-casting dies, cold working, plastic moulds.

Supply conditions: quenched and tempered | Hardness: 410-475 HB

COLD WORK TOOL STEEL

W. Nr. 1.2080

EN-ISO: X210Cr12
DIN: -

C 1,90 ÷ 2,20
Si 0,10 ÷ 0,60
Mn 0,20 ÷ 0,60
Cr 11,00 ÷ 13,00

Mo -
V -
Ni -

High Chromium cold work steel with very high wear resistance against abrasive and adhesive wear. Its quality has very good deep hardening properties and dimensional stability as well as a high compressive strength and moderate toughness. Applications: blanking and punching dies; shear blades and cold trimming tools; cold extrusion tools; cold forming tools for ceramics and powder metallurgy.

Supply conditions: annealed | Hardness: ≤ 248 HB

W. Nr. 1.2379

EN-ISO: X153CrMoV12
DIN: X155CrVMo12-1

C 1,45 ÷ 1,60
Si 0,10 ÷ 0,60
Mn 0,20 ÷ 0,60
Cr 11,00 ÷ 13,00

Mo 0,70 ÷ 1,00
V 0,70 ÷ 1,00
Ni -

High Chromium ledeburitic cold work steel. Additional Molybdenum and Vanadium improve edge retaining and deep hardening properties. Appreciated for its resistance to abrasion and its suitability for high-duty tools for hard and heavy gauge materials. Excellent toughness and good dimensional stability. Applications: blanking and punching dies; shear blades and cold trimming tools; thread cutting tools; cold drawing dies.

Supply conditions: annealed | Hardness: ≤ 255 HB

W. Nr. 1.2767

EN-ISO: X45NiCrMo16
DIN: X45NiCrMo16

C 0,40 ÷ 0,50
Si 0,10 ÷ 0,40
Mn 0,20 ÷ 0,50
Cr 1,20 ÷ 1,50

Mo 0,15 ÷ 0,35
V -
Ni 3,80 ÷ 4,30

Air hardening tool steel with excellent toughness, good through-hardenability, stable grains, and high polishing quality. It is primarily used for dies in plastic injection molding application that involve high stresses. The high-hardness grade obtained by hardening makes this steel quality also suitable to heavy cold-working applications. Applications: injection moulds; blanking dies, forging dies and industrial blades.

Supply conditions: annealed | Hardness: ≤ 260 HB

W. Nr. 1.2842

EN-ISO: 90MnCrV8
DIN: -

C 0,85 ÷ 0,95
Si 0,10 ÷ 0,40
Mn 1,80 ÷ 2,20
Cr 0,20 ÷ 0,50

Mo -
V 0,05 ÷ 0,20
Ni -

Medium alloy cold work steel presenting good dimensional stability, good compressive strength and toughness, high hardening capacity though limited to small-medium sized sections. Oil hardening can easily be carried out considering the relatively low temperature required. Applications: blanking and punching dies; shear blades and cold trimming tools; thread cutting tools; measuring tools; inserts for plastic moulds.

Supply conditions: annealed | Hardness: ≤ 229 HB

Toolox® 44

C 0,32%
Si 0,60% ÷ 1,10%
Mn 0,80%
Cr 1,35%

Mo 0,80%
V 0,14%
Ni ≤ 1,00%

Toolox 44 is a pre-hardened engineering and tool steel with a nominal hardness of 450 HBW. Despite its high hardness Toolox 44 combines very good machinability with dimensional stability during machining. Toolox 44 presents very good polishing, A2 gloss, and texturing capabilities. Applications: engineering components, extrusion dies, small sized die-casting dies, cold working, plastic moulds.

Supply conditions: quenched and tempered | Hardness: 410-475 HB

HOT WORK TOOL STEEL

+ESR | NADCA #207-2018

W. Nr. 1.2343

EN-ISO: X37CrMoV5-1
DIN: X38CrMoV5-1

C 0,33 ÷ 0,41
Si 0,80 ÷ 1,20
Mn 0,25 ÷ 0,50
Cr 4,80 ÷ 5,50

Mo 1,10 ÷ 1,50
V 0,30 ÷ 0,50
Ni -

Chrome-molybdenum-vanadium steel designed for hot working dies and aluminium extrusion. Main features of this quality are a high resistance to thermal shock as well as to thermal fatigue, good mechanical properties and foremost excellent toughness also in hot condition. Applications: hot work. Die-casting moulds; die for the extrusion of aluminium alloys; plastic injection moulds; containers for die-casting presses. The ESR version (electro Slag Re-melting) exhibits an improved microstructure and cleanliness of the material, thus enhancing the mechanical and finishing properties.

Supply conditions: annealed | Hardness: ≤ 220 HB

+ESR | NADCA #207-2018

W. Nr. 1.2344

EN-ISO: X40CrMoV5-1
DIN: -

C 0,35 ÷ 0,42
Si 0,80 ÷ 1,20
Mn 0,25 ÷ 0,50
Cr 4,80 ÷ 5,50

Mo 1,20 ÷ 1,50
V 0,85 ÷ 1,15
Ni -

Highly appreciated for die-casting and extrusion of aluminium alloys for its excellent properties in hot condition and its high resistance to heat cracking. Extreme resistance up to 600° cycle temperature makes this steel suitable for dies subject to high mechanical and thermal stress. Applications: aluminium extrusion dies, dies for hot pressing, dies for low pressure aluminium gravity casting. The ESR version (electro Slag Re-melting) exhibits an improved microstructure and cleanliness of the material, thus enhancing the mechanical and finishing properties.

Supply conditions: annealed | Hardness: ≤ 220 HB

W. Nr. 1.2714

EN-ISO: 55NiCrMoV7
DIN: 56NiCrMoV7

C 0,50 ÷ 0,60
Si 0,10 ÷ 0,40
Mn 0,60 ÷ 0,90
Cr 0,80 ÷ 1,20

Mo 0,35 ÷ 0,55
V 0,05 ÷ 0,15
Ni -

A high performance material precious to many applications, especially in the hot pressing sector. Main features are high resistance to thermal fatigue, very good toughness also in hot conditions as well as deep hardening properties and good wear resistance. Very good for polishing and photo etching. Applications: mould frames, cores and dies for the hot pressing sector, shells for aluminium extrusion dies; medium-big sized plastic injection moulds.

Supply conditions: annealed | Hardness: ≤ 250 HB - Quenched and tempered | Hardness: 370 - 410 HB

W. Nr. 1.2767

EN-ISO: X45NiCrMo16
DIN: X45NiCrMo16

C 0,40 ÷ 0,50
Si 0,10 ÷ 0,40
Mn 0,20 ÷ 0,50
Cr 1,20 ÷ 1,50

Mo 0,15 ÷ 0,35
V -
Ni 3,80 ÷ 4,30

Air hardening tool steel with excellent toughness, good through-hardenability, stable grains, and high polishing quality. It is primarily used for dies in plastic injection molding application that involve high stresses. The high-hardness grade obtained by hardening makes this steel quality also suitable to heavy cold-working applications. Applications: injection moulds; blanking dies, forging dies and industrial blades.

Supply conditions: annealed | Hardness: ≤ 260 HB

Toolox® 44

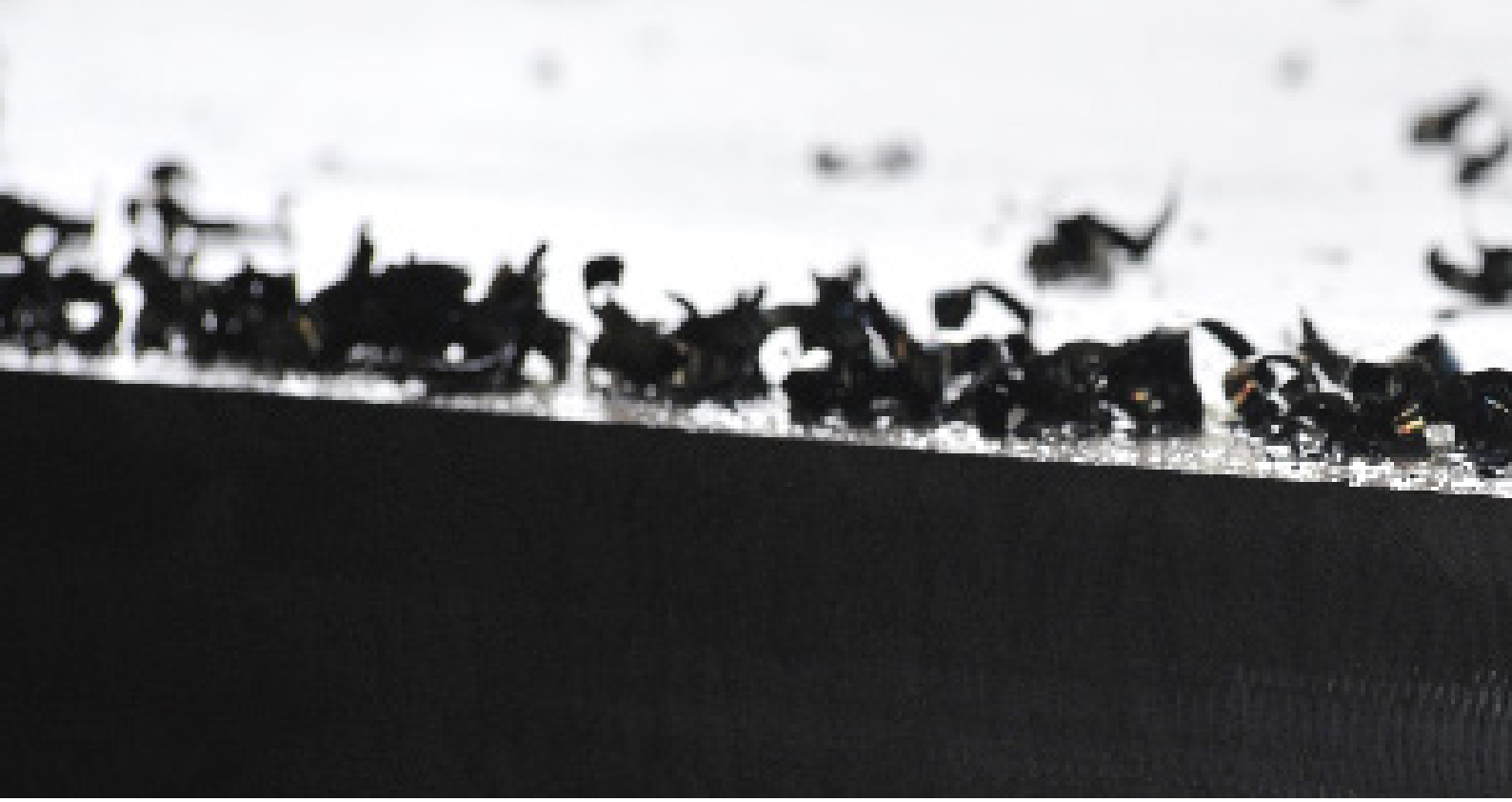
C 0,32%
Si 0,60% ÷ 1,10%
Mn 0,80%
Cr 1,35%

Mo 0,80%
V 0,14%
Ni ≤ 1,00%

Toolox 44 is a pre-hardened engineering and tool steel with a nominal hardness of 450 HBW. Despite its high hardness Toolox 44 combines very good machinability with dimensional stability during machining. Toolox 44 presents very good polishing, A2 gloss, and texturing capabilities. Applications: engineering components, extrusion dies, small sized die-casting dies, cold working, plastic moulds.

Supply conditions: quenched and tempered | Hardness: 410-475 HB

Technical support



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