



*It's All
in the
QUENCH!*

Toolox 44 is Formulated to ESR properties

- Improves polishing to LENS quality finish
- More consistent texturing capabilities
- Excellent welding properties

Toolox 44 utilizes a highly specialized Quench and Temper

- Permits Toolox 44 to maintain a simple chemical composition while retaining a hardness of 45 Rc

NO EXTRA CARBON ⇨ NO EXTRA SULPHUR ⇨ CREATES MORE CONSISTENT CROSS-SECTION

- Low residual stress and dimensional stability
- Easier to machine than other steels of the same or lower hardness
- Simple composition improves thermal conductivity
- Strong Heat Check resistance

At 45 Rc, Toolox 44 is READY TO GO

- Saves Heat Treat costs and valuable time
- Great for new builds and unexpected repairs
- High Impact Strength. Each plate Charpy V notch tested at 20 ft. lbs. minimum
- Improved wear resistance with gas nitriding to 60 Rc

*Supplied in plate thickness between .200" to 5.125" and
in Forge Round Bar up to 14 inch diameter*



TOOLOX is the registered
trademark for tool steels
produced by
SSAB Oxelösund AB



Usage

APPLICATIONS

- Machine Components • Plastic Molds • Press Forming • Die Cast Dies, Insert Blocks, Shot Blocks, Core Pins
- Forge Dies and Hard Plates • Rubber Molds • Permanent Molds • Wear Components • Mold and Die Repair

MACHINING

- Milling • Drilling • Threading • EDM or Die Sinking • Etching • Water Jet Cut
- Saw Cut • Gas Flame Cut • Weldable • Gas Nitride for Hardness

SEE OUR WEBSITE FOR MORE MACHINING INFORMATION

Technical Information (Typical Values)

Chemical Composition (typical values)

C	0.31 %
Si	0.60%
Mn	0.90%
S, max	40 ppm
Cr	1.35%
Ni	0.70%
Mo	0.80%
V	0.145%

Mechanical Properties (typical values)

	+20°C	+200°C
Tensile strength, PSI	210,300	200,150
Yield strength, PSI	188,500	174,045
Elongation, A ₅ [%]	13	10
Impact Toughness, Typical	22 ft. lbs.	
Hardness, [HRC]	45	

Compressive Strength (typical values)

Yield strength, PSI	PSI
at + 20°C	181,300
at + 200°C	165,340
at + 300°C	162,400
at + 400°C	150,840

Physical Properties (typical values)

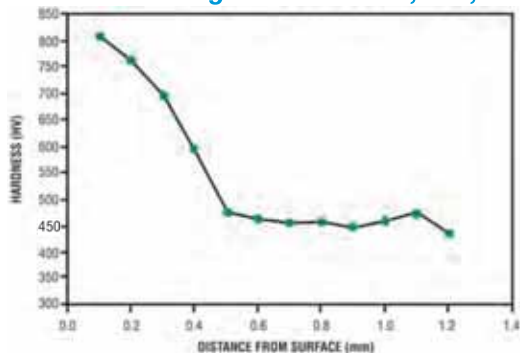
Thermal expansion coefficient	Inch/inch F°
68°F -> 750°F	7.5

Inclusions (typical values)

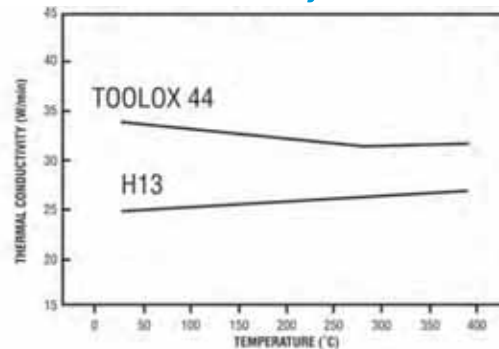
Inclusion size (equiv. diam)	6µm
Area fraction	0.015%
Aspect ratio	1.2

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Gas nitriding of TOOLOX 44, 60h, 510°C



Thermal conductivity in tool steel



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