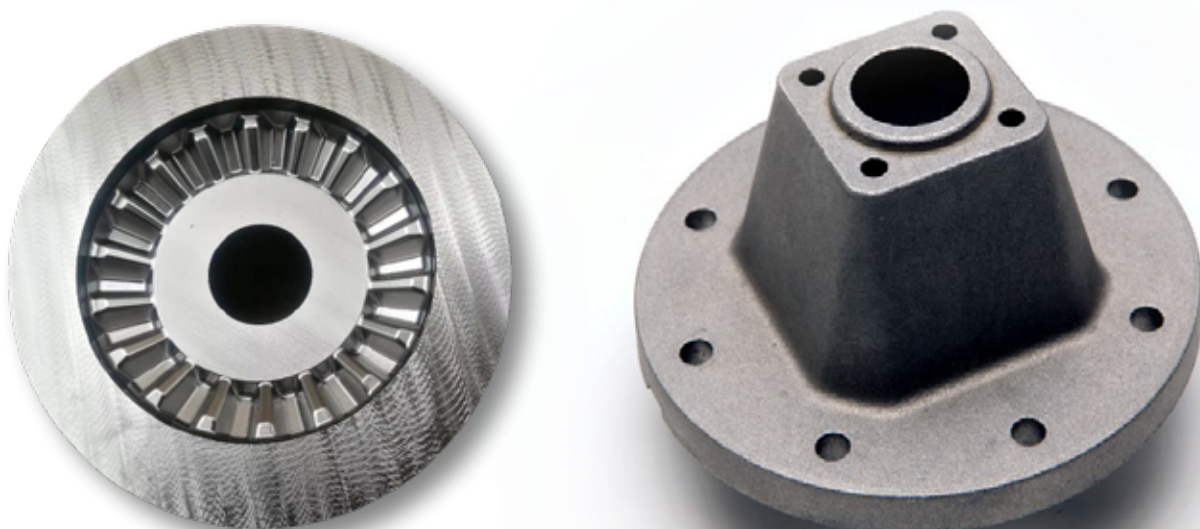


TOOLOX® FOR FORGING DIES

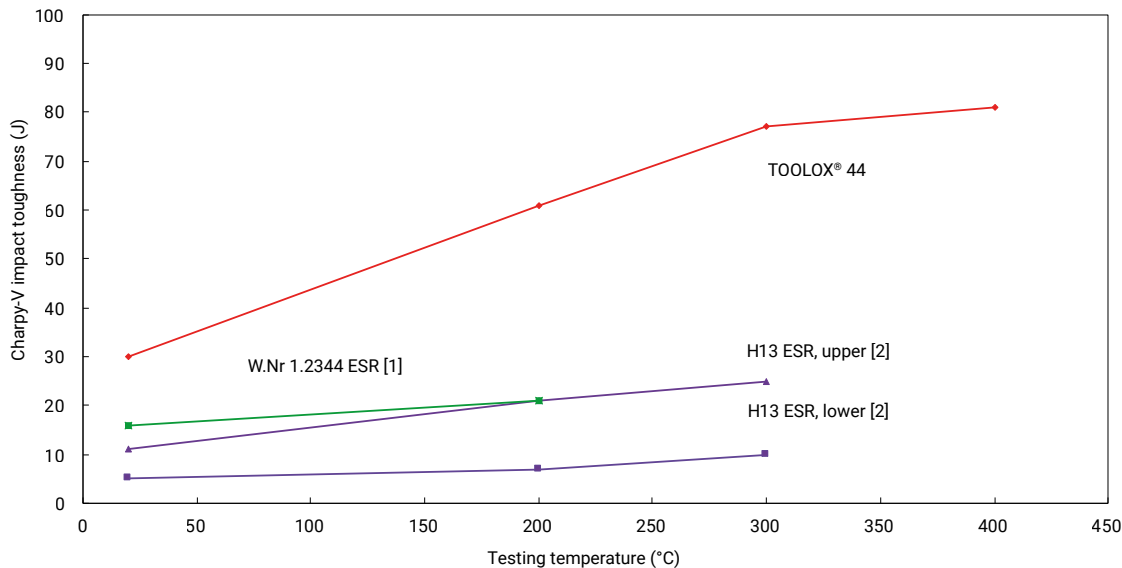
The Toolox® steels made by Swedish Special Steel producer SSAB have proven to be an excellent choice for Forging dies. Being delivered already heat treated large savings can be made in time and cost. The extensive quality control made on the Toolox® products takes away the risk always present when heat treatment is done. Having an elevated and guaranteed crack resistance limits gross cracking risk.

The Toolox® 44 steel grade has been available in the market for more than 10 years. Being used for a large number of forging dies, it has proven to perform in the level as standard hot work tool steels such as H13. Giving good results as it is the performance further improves with nitriding surface treatments. Being lower alloyed than traditional tool steels, the machining properties are excellent for the 45 HRC hardness level.

For more demanding conditions, such as longer cycle times, more complicated component shapes or less efficient cooling, SSAB has developed a new steel grade called TS 46. TS 46 has increased content of Mo which improves the heat resistance. In application testing, TS 46 has performed similar or even better than ESR hot work tool steels. Keeping the benefits of Toolox® 44 being delivered already heat treated and being fully machinable with conventional tooling.



	Toolox® 44	TS 46	W.Nr 1.2714	W.Nr 1.2344 (H13)
Hardness	410-475 HBW	430 – 490 HBW	36 – 40 HRc	(heat treated 45-55 HRc)
Toughness guarantee	Min 11 J @ RT	Min 11 J @ RT	None	None
C	0.31	0.34	0.55	0.40
Cr	1.35	1.50	1.10	5.20
Ni	0.70	1.20	1.65	-
Mo	0.80	2.00	0.50	1.40
V	0.145	0.14	0.10	0.90
P (max)	0.010	0.010	0.030	0.030
CE	0.97	1.28	1.12	1.96



Availability

Plates and square blocks from 6–320 mm. Bars between 21 and 405 mm with lengths up to 5000 mm. Toolox® is available from the local SSAB stock. Cut pieces of Toolox® can be obtained through the well-established global network of Approved Toolox® Distributors. Both SSAB and the distributors can provide you with good application support as well as technical guidelines.

Contact and more information

Contact your local sales representative to learn more, visit www.toolox.com or consult Tech Support at: help@ssab.com.