

FASTENER PRODUCTION SOLUTIONS



ONE WORLD, ONE UDDEHOLM, ONE GREAT IMPACT

TOTAL TOOLING ECONOMY



Uddeholm has a global reputation in producing high performance steel for hot work, cold work and plastic production areas. We now bring that expertise to deliver production improvements in the fastener and hot forging industry.



If you are designing fasteners subject to heavy loads, heavy wear, corrosion or high temperatures, Uddeholm's tooling material could be the answer you are looking for. Our high performance tool steels offer superior property combinations to help you achieve a high performance solution.



We invest heavily in product development and our services, whether it is material properties, new steel grades or analysing our customers tools to improve efficiency. Our expert team based in the UK will gladly guide you in the selection, heat treatment, machining, and welding of Uddeholm tool steels.

Quite simply, it pays to go for better steel.

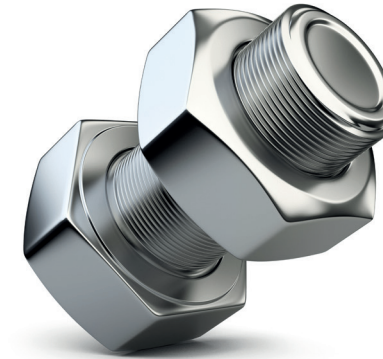
RELATIVE PROPERTY COMPARISON OF RESISTANCE AGAINST COMMON FAILURES MECHANISMS

UDDEHOLM TOOL STEEL	HOTWEAR	PLASTIC DEFORMATION	PREMATURE CRACKING	HEAT CHECKING	HIGHEST ACHIEVABLE HARDNESS *
DIEVAR	██████████	██████████	██████████	██████████	52HRC
UNIMAX	██████████	██████████	██████████	██████████	58HRC
ORVAR 2 MICRODIZED	██████████	██████████	██████████	██████████	54HRC
ORVAR SUPREME	██████████	██████████	██████████	██████████	54HRC
QRO 90 SUPREME	██████████	██████████	██████████	██████████	52HRC
FORMVAR	██████████	██████████	██████████	██████████	52HRC

* this is not a recommendation but an indication of the highest achievable hardness, contact Uddeholm engineer for your application

SUPERIOR TOOLING FOR SUPERIOR PRODUCTIVITY

Choosing the right material is an important decision to make. For the fastener user, it could mean the difference between success and failure. For the fastener manufacturer, it is a matter of overall economy, operational stability, and a competitive edge.



Uddeholm **Dievar** is the industry benchmark for a high-performance steel for the longest tool life and lowest crack risks due to its superior toughness and ductility. Apart from die casting it has proven itself as a great tool steel for other applications such as forging, extrusion and hot stamping.

- The steel has a very good resistance to heat checking and gross cracking.
- Excellent toughness and ductility in all directions
- Good temper resistance
- Good high-temperature strength
- Excellent hardenability
- Good dimensional stability throughout heat treatment and coating operations.



Uddeholm **Unimax** is a high hardness hot work tool steel which provides great wear resistance even over extended time at elevated temperatures. Delivering high hardness and toughness together with good dimensional stability.

- Excellent toughness and ductility in all directions
- Good dimensional stability at heat treatment and in service
- Excellent through-hardening properties
- Good resistance to tempering back
- Good hot strength
- Good thermal fatigue resistance

PERFORMANCE COMPARISON

	HOT WEAR RESISTANCE	PLASTIC DEFORMATION RESISTANCE	HEAT CHECKING RESISTANCE	PREMATURE CRACKING RESISTANCE
REFERENCE GRADE HOT WORK (H13)	40%	40%	40%	35%
UDDEHOLM DIEVAR	45%	80%	75%	85%
UDDEHOLM UNIMAX	60%	60%	70%	40%

**#1 IN HIGH
PERFORMANCE
TOOL STEEL**

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