

UDDEHOLM TOOL STEEL PROGRAM

Since 1668 we have been providing a wide range of innovative cutting-edge solutions for our customers in demanding segments. Our dedicated employees work in almost ninety countries and together we deliver improved competitiveness to clients worldwide.

Product Program	Standard Reference	Description
COLD WORK TOOL STEEL		
Uddeholm Caldie®	-	P-ESR quality for short and medium run tooling in applications where high chipping resistance and compressive strength is required. Matching TIG weld rod available
Uddeholm Compax® Supreme	S7 Mold Quality	Good toughness, polishability, wear resistance and compressive strength
Uddeholm Slepner®	8% Cr	Highly alloyed tool steel ideal for replacing AISI D2 when chipping is a problem and/or replacing AISI A2 when wear is an issue
AISI A2	A2	All purpose tool steel for medium run cold work applications
AISI D2	D2	Highly alloyed tool steel suitable for medium run tooling in applications where good resistance to abrasive wear is required
POWDER METAL STEEL: COLD WORK AND STAINLESS STEEL		
Uddeholm Elmax SuperClean®	PM 440C Modified SS	Recommended for long production runs of smaller and complicated shapes and/or reinforced plastics
Uddeholm Vanadis® 4 Extra SuperClean	-	High chipping resistance, good wear resistance
Uddeholm Vanadis® 8 SuperClean	-	Excellent wear resistance and good toughness
Uddeholm Vanax® SuperClean	-	Superior corrosion resistance with high hardness and excellent antigalling characteristics
Uddeholm Vancron® SuperClean	-	PM steel, very high adhesive wear/galling resistance
PLASTIC MOLD MATERIALS		
Uddeholm Compax® Supreme	S7 Mold Quality	Good toughness, polishability, wear resistance and compressive strength.
Uddeholm Coolmould®	BeCu Alloy 172	High-strength beryllium copper mold alloy supplied at ~40 HRC
Uddeholm Corrax®	PH SS	Precipitation hardening mold steel with excellent corrosion resistance, hardens to 50 HRC. Matching TIG weld rod available
Uddeholm Mirrax® ESR	400 series SS, P-ESR	P-ESR stainless steel with excellent toughness, corrosion resistance and polishability. Matching TIG, MIG and Laser weld rod available
Uddeholm Mirrax® 40	Prehardened 400 series SS, P-ESR	Prehardened stainless insert steel with good machinability and resistance to deformation, ~40 HRC. Matching TIG, MIG and Laser weld rod available
Uddeholm Ramax® HH	420F Modified Prehard SS	Prehardened 420F stainless holder steel with excellent machinability and very good resistance to deformation, ~36-40 HRC
Uddeholm RoyAlloy™	~400 Free Machining Prehard SS	Prehardened ~400SS series with excellent machinability and stability, 30-34 HRC
Uddeholm Stavax® ESR	420 Modified SS	P-ESR stainless steel with very good corrosion resistance and high polishability. Matching TIG and Laser weld rod available
Uddeholm Tyrax® ESR	-	P-ESR stainless steel for plastic materials; combines best in class corrosion, toughness, polishability and wear resistance. Matching TIG and MIG weld rod available
Uddeholm Unimax®	-	Versatile steel with excellent toughness, wear resistance and hardenability; very good replacement for S7 inserts. Matching TIG weld rod available
Holder	41XX	A prehardened steel for support plates and holders
P20 Modified	P20 Modified	Premium P20 with good polishability, machinability and uniform hardness; P20 High Hard available in Canada
HOT WORK TOOL STEEL		
Uddeholm Dievar®	DIN 1.2367 Modified, P-ESR	Excellent resistance to heat checking and gross cracking, Charpy V-notch toughness 18.4 ft-lb min, 44-46 HRC. Matching TIG, MIG and Laser weld rod available
Uddeholm Formvar®	-	High performance hot work tool steel for hot forging and aluminum extrusion tooling
Uddeholm Orvar® 2M	H13	General hot work and mold steel
Uddeholm Orvar® Supreme	Superior H13 P-ESR	P-ESR, very good gross cracking and heat checking resistance, Charpy V-notch toughness 12 ft-lb min, 44-46 HRC. Exceeds NADCA 207 Grade B
Superior H13 ESR	Superior H13 ESR	ESR, very good gross cracking and heat checking resistance, Charpy V-notch toughness 10 ft-lb min, 44-46 HRC. Meets NADCA 207 Grade B
Uddeholm Unimax®	-	P-ESR, excellent toughness up to 58 HRC, excellent hot wear and heat checking resistance
ADDITIVE MANUFACTURING POWDER		
Uddeholm Corrax® for AM	-	Stainless steel powder for processing Laser Powder Bed Fusion (LPBF) & Laser Metal Deposition (LMD); superior corrosion resistance and polishability
Uddeholm Dievar® for AM	-	ESR steel powder for processing Laser Powder Bed Fusion (LPBF) & Laser Metal Deposition (LMD); superior toughness and high temperature strength
Uddeholm Vanadis® 4 Extra for AM	-	PM steel made for EBM (Electron Beam Melting) & Laser Metal Deposition (LMD); high chipping resistance, good wear resistance

This information is based on our present state of knowledge and is intended to provide general notes on our products and their uses. It should not therefore be construed as a warranty of specific properties of the products described or a warranty for fitness for a particular purpose.

Ask us about our Value Added Services like Custom Saw Cutting, Machining, Grinding, Heat Treatment and PVD Coatings.

Need precision flatground, drill rod or tool steel off-cuts? Visit: www.buffaloprecision.com

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Shaping the World - Manufacturing Solutions for Generations to Come

UDDEHOLM TOOL STEEL PROGRAM

Product Program	Melt Process	Delivered Condition	Suggested Hardness (HRC)	Compressive Strength	Polishability	Corrosion Resistance	Abrasive Wear Resistance	Toughness	Machinability	Weldability	Thermal Conductivity
COLD WORK TOOL STEEL											
Uddeholm Caldie®	Electro-Slag Remelted*	HB 215 (max)	56-62	•••••	••••	•	•••	•••	•••	••••	••
Uddeholm Compax® Supreme	Conventional	HB 200	50-56	••••	•••	•	••	•••	•••	••••	••••
Uddeholm Slepner®	Conventional	HB 235	56-64	•••••	••	•	••••	••	•••	•	•
AISI A2	Conventional	HB 215 (max)	56-60	•••••	••	•	•••	••	•••	••	•••
AISI D2	Conventional	HB 210	56-60	•••••	••	•	••••	•	••	•	•
POWDER METAL STEEL: COLD WORK AND STAINLESS STEEL											
Uddeholm Elmax SuperClean®	Powder Metallurgical	HB 280	56-58	•••••	••••	•••	••••	••	••	•	•
Uddeholm Vanadis® 4 Extra SuperClean	Powder Metallurgical	HB 230	58-64	•••••	••••	•	••••	•••	••	•	••••
Uddeholm Vanadis® 8 SuperClean	Powder Metallurgical	HB 270	58-64	•••••	••••	•	•••••	••	••	•	•
Uddeholm Vanax ® SuperClean	Powder Metallurgical	HB 260	58-60	•••••	••••	•••••	••••	••	••	NO	•••
Uddeholm Vancron® SuperClean	Powder Metallurgical	HB 300	58-64	•••••	••••	•	••••	••	••••	NO	•
PLASTIC MOLD MATERIALS											
Uddeholm Compax® Supreme	Conventional	HB 200	50-56	••••	•••	•	••	•••	•••	••••	••••
Uddeholm Coolmould®	Conventional	Age Hardening to 40	~40	•••	••••	••••	•	••	••••	•••	•••••
Uddeholm Corrax®	Conventional	Solution treated ~34HRC	34-50	•••	•••	•••••	••	••••	•	•••••	•
Uddeholm Mirrax® ESR	Electro-Slag Remelted*	HB 250	46-52	•••	••••	••••	••	••••	•••	•••	•
Uddeholm Mirrax® 40	Electro-Slag Remelted*	38-42 HRC	~38-42	•••	•••	••	•	••••	•••	••••	•
Uddeholm Ramax® HH	Conventional	35-38 HRC	36-40	•••	•	••	•	•••	•••	••	••
Uddeholm RoyAlloy™	Conventional	30-35 HRC	30-35	••	•	••	•	••••	•••••	•••	••••
Uddeholm Stavax® ESR	Electro-Slag Remelted*	HB 190	46-52	•••	••••	•••	••	•••	•••	•••	•
Uddeholm Tyrax® ESR	Electro-Slag Remelted*	HB 190	50-58	••••	•••••	•••	•••	•••	•••	•••	••
Uddeholm Unimax®	Electro-Slag Remelted*	HB 185	52-58	••••	••••	•	•••	•••	•••	••••	•••
Holder	Conventional	28-32 HRC	28-32	•	•	•	•	••	•••••	••	••••
P20 Modified	Conventional	30-36 HRC	30-36	••	•••	•	•	•••••	••••	••••	••••
HOT WORK TOOL STEEL											
Uddeholm Dievar®	Electro-Slag Remelted*	HB 160	44-52	•••	••••	•	••	•••••	••	••••	••••
Uddeholm Formvar®	Conventional	HB 230 (max)	44-52	•••	•••	•	••	••••	••	••••	••••
Uddeholm Orvar® 2M	Conventional	HB 185	44-52	•••	•••	•	••	•••	••••	••••	•••
Uddeholm Orvar® Supreme	Electro-Slag Remelted*	HB 180	44-52	•••	••••	•	••	••••	••••	••••	•••
Superior H13 ESR	Electro-Slag Remelted	HB 180	44-52	•••	••••	•	••	••••	••••	••••	•••
Uddeholm Unimax®	Electro-Slag Remelted*	HB 185	52-58	••••	••••	•	•••	•••	•••	••••	•••
ADDITIVE MANUFACTURING POWDER											
Uddeholm Corrax® for AM	AM Powder	Powder	36-50	•••	••••	•••••	••	••••	•	•••••	•
Uddeholm Dievar® for AM	AM Powder	Powder	44-52	•••	•••••	•	••	•••••	••	••••	•••••
Uddeholm Vanadis® 4 Extra for AM	AM Powder	Powder	58-64	•••••	••••	•	••••	•••	••	•	••••

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Ask us about our environmental and sustainability efforts! 

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