

HOT WORK STEEL PRODUCT SHEET

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CHEMICAL COMPOSITION

EST	DIII	ASTM	CHEMICAL COMPOSITION									PROPERTY	APPLICATION
			C	Si	Mn	P _s	S _s	Cr	Mo	V	W		
YTR5	1.2344	H13	0.35-0.42	0.80-1.20	0.25-0.50	0.030	0.030	4.80-5.50	1.20-1.50	0.85-1.15	-	High hardenability, excellent wear resistance and hot toughness. has good thermal shock resistance, (ESR) H13 has greater homogeneity and an exceptionally fine structure, resulting in improved machinability, polishability and high temperature tensile strength.	Pressure die casting tools, extrusion die, forging dies, hot shear blades, stamping dies, plastic molds, Hot work mandrels, ESR H13 is great for aluminium die-casting tools and plastic mold tools requiring a very high polish.
YTH12	1.2606	H12	0.32-0.40	0.90-1.20	0.30-0.60	0.030	0.030	5.00-5.60	1.30-1.60	0.15-0.40	1.20-1.40	Excellent impact toughness. The tungsten content provides better temper resistance, deep-hardening, air-hardening steel that exhibits minimal size change during heat treatment. Good resistance to thermal fatigue cracking	hot punches, die casting dies, forging dies, hot shear blades, hot gripper dies, and extrusion dies.
YTR50	1.2343	H11	0.33-0.41	0.80-1.20	0.25-0.50	0.030	0.030	4.80-5.50	1.10-1.50	0.30-0.50	-	High hardenability, excellent toughness, good resistance to thermal shock when water cooled in service, minimal size change during heat treatment.	Recommended for hot tooling applications where maximum resistance to cracking is required. Hot punches, die casting dies, forging dies, hot shear blades, hot gripper dies, extrusion dies.
YTR65	1.2365	H10	0.28-0.35	0.10-0.40	0.15-0.45	0.030	0.030	2.70-3.20	2.50-3.00	0.40-0.70	-	Excellent resistance to softening at elevated temperature. very resistant to thermal fatigue cracking, and can be water cooled in service	Heavy metal Die-casting tools, Piercing Mandrels, Hot punches, forging dies, hot shear blades
YTR2	1.2581	H21	0.25-0.35	0.10-0.40	0.15-0.45	0.030	0.030	2.50-3.20	-	0.30-0.50	8.50-9.50	Exhibits excellent resistance to softening at elevated temperature. Should not be water cooled in service unless the tool includes a continuous flow of internal water cooling. Thermal shock should be avoided	Recommended for difficult hot work tooling applications such as brass extrusion, brass die casting dies, hot punches, forging die inserts.
YTR6A	1.2714	L6	0.50-0.60	0.10-0.40	0.60-0.90	0.030	0.030	0.80-1.20	0.35-0.55	0.05-0.15	Ni 1.50-1.80	High impact toughness and good resistance to softening at elevated temperature. good resistance to thermal shock and thermal fatigue cracking, small dimensional changes during hardening.	Die forging, die casting, extrusion, glass processing,. Mandrels, Die holders

HEAT TREATMENT

EST	DIII	ASTM	Density (g/cm ³)	HEAT TREATMENT												
				Soft Annealing °C	Annealed Hardness HB	Hardening From °C	Quenching In	Hardness After Quenching HRC	Tempering °C							
									100°C	200°C	300°C	400°C	500°C	550°C	600°C	
HRC	HRC	HRC	HRC	HRC	HRC	HRC										
YTR5	1.2344	H13	7.80	760-800	Max. 235	1010-1040	OIL / AIR	56	54	52	51.5	54	56	52.5	48	
YTH12	1.2606	H12	7.80	750-790	Max. 235	1020-1050	OIL / AIR	52-56	53	52	53	55	56	52	47	
YTR50	1.2343	H11	7.80	760-790	Max. 235	1010-1040	OIL / AIR	52-56	53	52	52.5	54.5	56	52	46	
YTR65	1.2365	H10	7.90	760-790	Max. 235	1030-1050	OIL / AIR	52	52	50.5	51	51.5	50	49	46	
YTR2	1.2581	H21	8.20	790-830	Max. 240	1110-1150	OIL	52	52	51	49.5	49.5	51	52	51	
YTR6A	1.2714	L6	7.85	650-700	Max. 250	OIL 830-870	AIR / OIL	58	57	54	52	49	45	43	39	
						AIR 860-900		56	55	52	50	47	43	40	36	