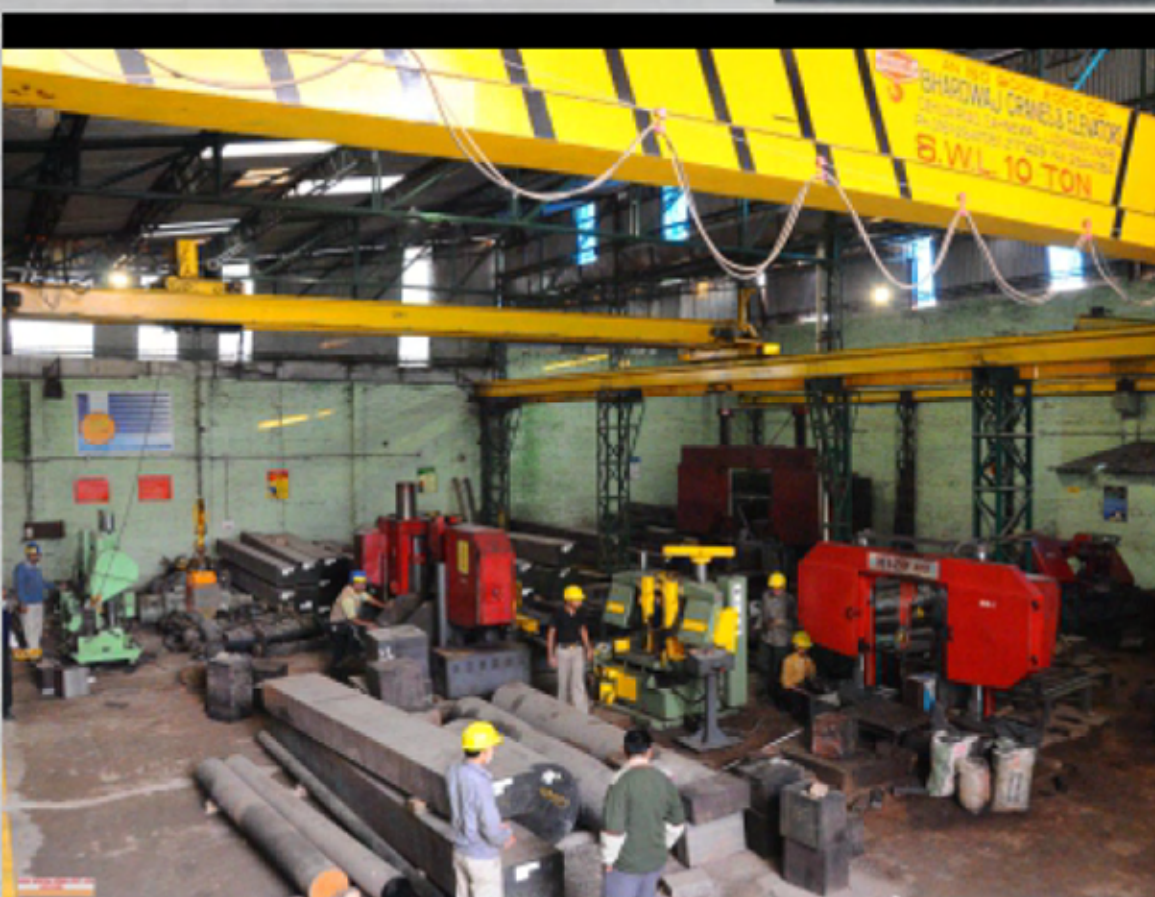
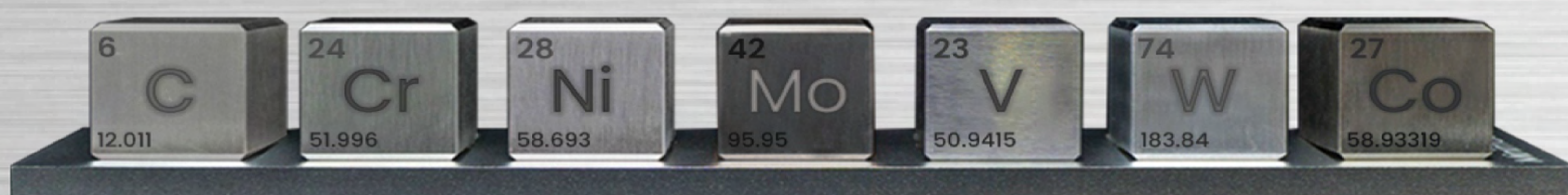


Providing Steels For Shaping.

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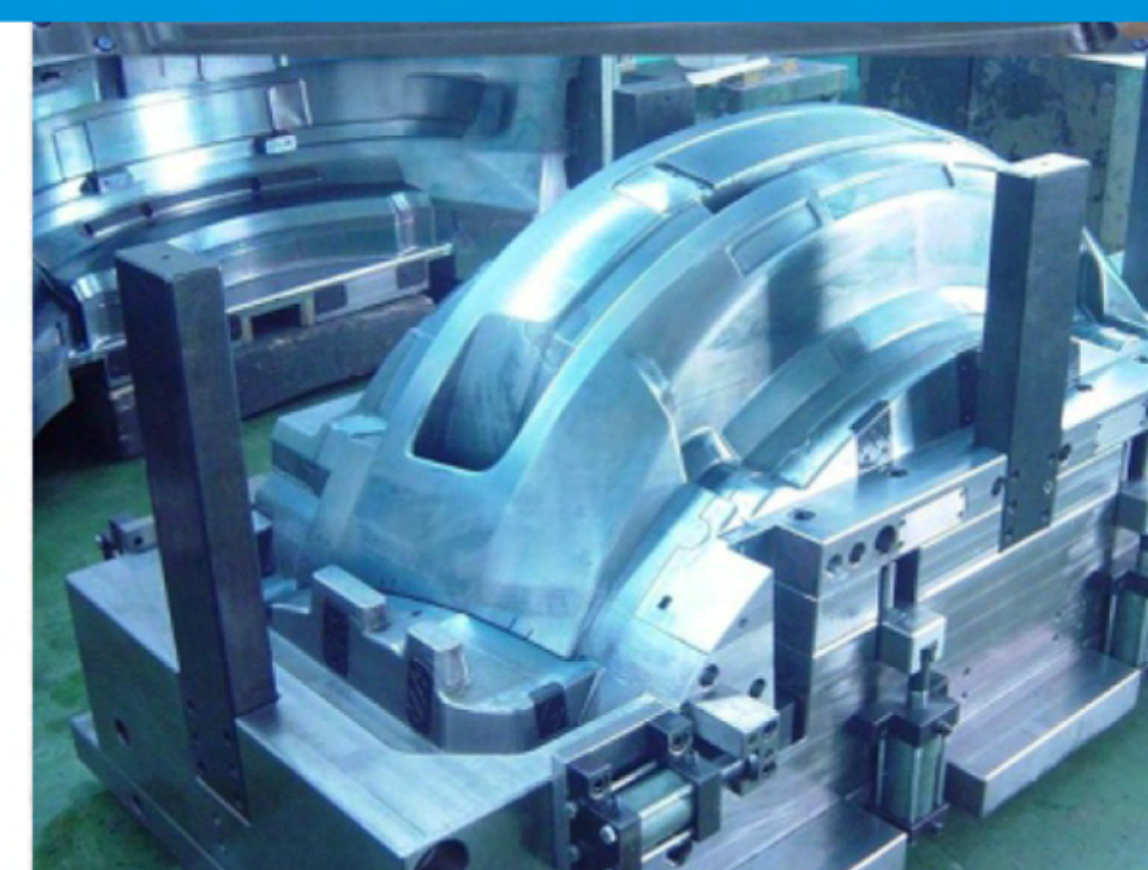
Ludhiana (Unit-I)



Gurgaon (Unit-II)



Forging Process



Bumper Block

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VIRAT | Special Steels

The leading company **VIRAT SPECIAL STEELS PVT. LTD.** is one of the largest Importers, Exporters, and Distributors of Tool Steel, Die Steel, Mould Steel, Alloy Steel, Etc.

The company was incorporated in 1957 as Dhingra Mill Store and now as Virat Special Steels Pvt. Ltd. in 1994, with its Headquarters in Gurgaon (Delhi - NCR) and global footprints in various countries.

The company maintain biggest steel yards with hi-tech facilities and holds a high level of inventory of Special steels with association of Domestic and Overseas Business Partners.

We have been in business for the last about Seven Decades and have been dealing with a large number of Forging Companies, Automotive, Mining, Power Generation, Petrochemical, Aviation, Railways, Oil & Gas, Agricultural, Hand Tools, and Bulk Material Handling Industries, Etc. The products we deal engineered to extend life service, save time, and provide optimal performance to our Customers. You can rely on us for accurate and timely services on our part to process and execute orders to match your satisfaction.



OUR PRODUCTS

- » DIE BLOCKS (DIN-1.2714 , DB6, L6, SKT4)
- » HCHCR (D-2, D-3 / 2379 , 2080)
- » HOT DIE STEELS (H-11,H-13 / 2343, 2344)
- » HIGH SPEED STEELS (M-2, M-35, T-1)
- » PLASTIC MOULD STEELS (P-20 / 2738, 2311)
- » CHIPPER KNIFE STEELS
- » ALLOY STEELS, EN-SERIES ETC.

STATISTICS

1957

Existence

3500 Tons

Stock

35+

Grades

9001:2008

Accreditation

1800+

Customers

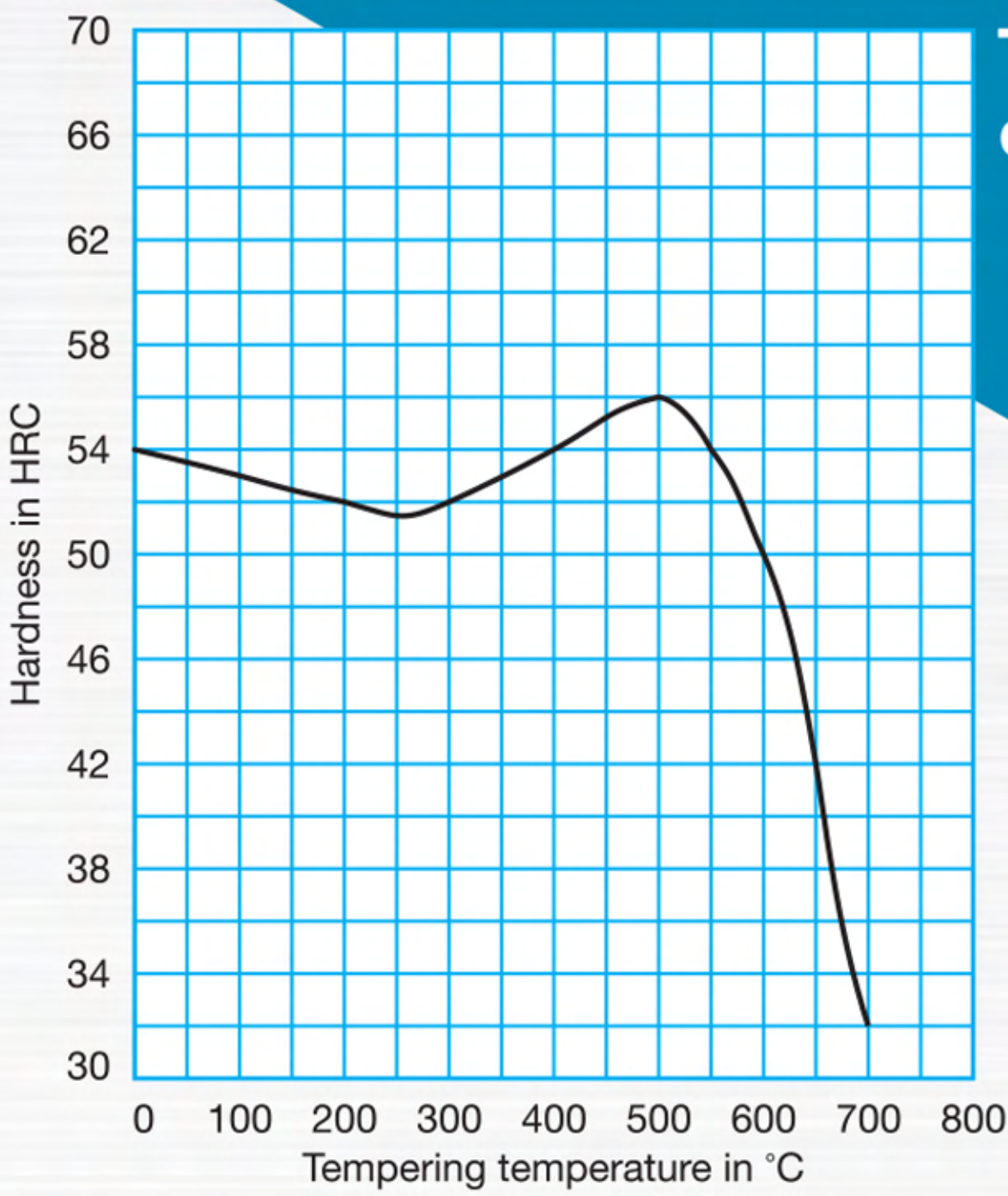
DIN 2344 EFS - H13

DIN 1.2344 is the most popular steel grade for various Industries. The main features of high alloyed Cr-Mo-V Hot Work tool steel is high wear resistance to thermal shock and to heat cracking, good mechanical characteristics & toughness in hot condition. DIN 2344 appears excellent machinability with constant hardness during production activities.

The equivalent steel grade H-13 / SKD61 / AISI H13 normally available in annealed condition but in some specific applications, we provide Pre Hard 2344 with its standard hardness 460-500 BHN. DIN 2344 is the superior steel grade than DIN 2343 / H11 to get better performance of dies.

Applications

Dies for Drop Forgings | Aluminum Extrusion | Containers, liner | HPDC | Punches | Holder | Injection Moulds Etc.



Tempering diagram

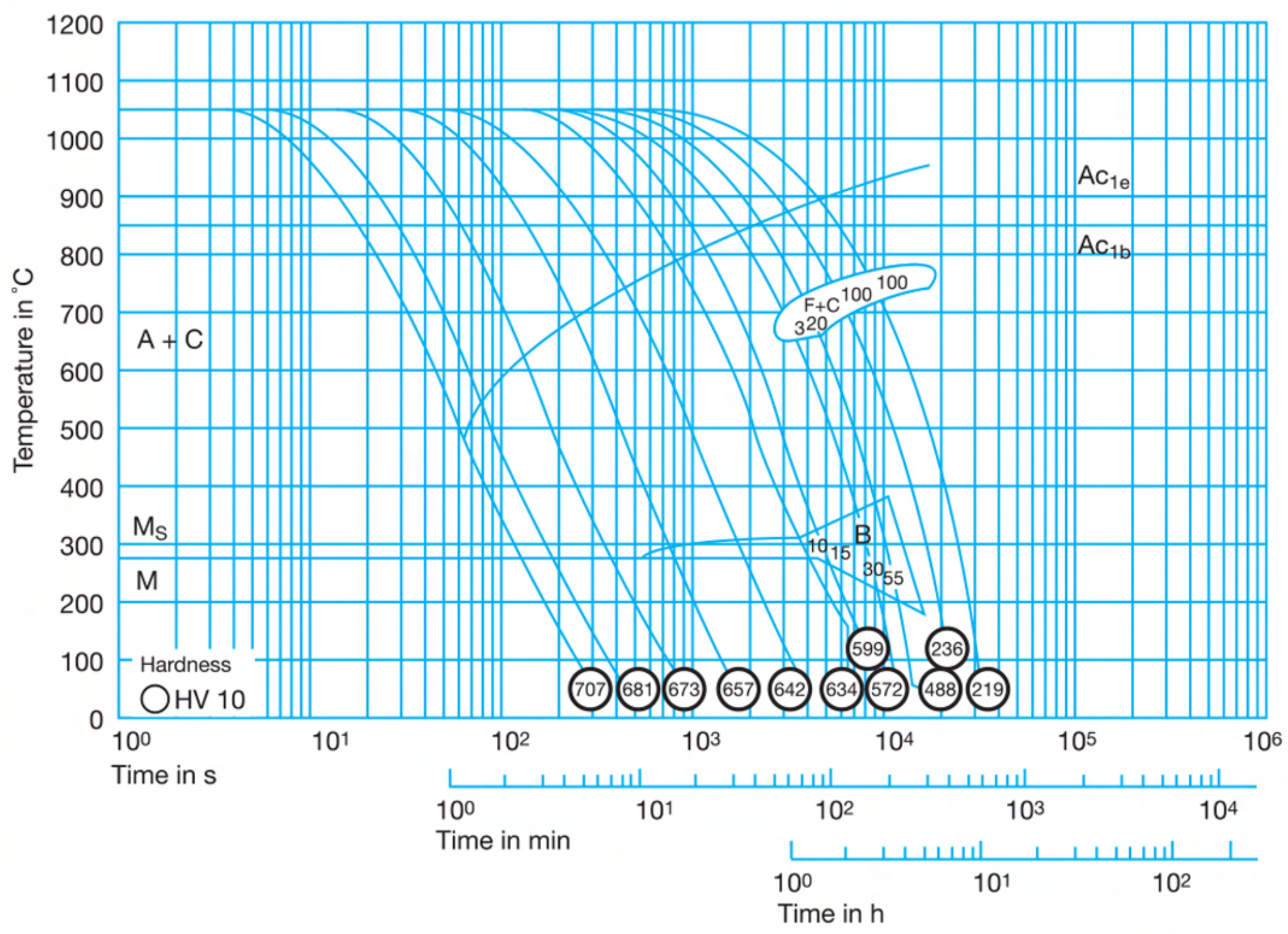
DIN 2344 ESR-H13

ESR is the most refined material with traditional VD route. The quality of material increase the toughness , highly increase the micro- cleanness level.

Highly recommend the use of 2344 ESR grade for Aluminum Pressure Die Casting & other component subjected to high working temperatures and high pressure strength. DIN 2344 is fully ultrasonic inspected with 100% positive results as per NDT standards.

DIN 2344 SKD61 AISI H13 X40CrMoV5	C	0.35-0.42
	Si	0.90-1.20
	Mn	0.30-0.50
	P	<0.030
	S	<0.004
	Cr	4.75-5.40
	Mo	1.10-1.40
	V	0.80-1.10

Time-temperature-transformation diagram





DIN 2714 (MOD)-DB6

DIN 1.2714 is highly recommendable for Close Die Forgings due to its characteristics of high wear-resistance, extra toughness, high hardness which is achieved with Cr-Ni-Mo-V high graded alloys.

The equivalent grade DB6 / L6 / SKT4 normally used as a pre hardened condition. The standard hardness is 360 to 420 BHN. DIN 2714 is the upgraded version of DIN 2713 for better performance of dies.

The main quality features of our products are Extra Forging Reduction & Upsetting with Double Tempered to achieve toughness and better Ultrasonic quality. SEP1921, Group 3, Class D/d, E/e.

Applications

Dies for Drop Forging Hammers & Mechanical Presses | Die Molds | Shoe Blocks | Die Holder Cassettes | Piston Rods | Cranks | Bolster | Shearing Blades | Tools | Plastic Moulds | Shafts Etc.

Standards - DIN 2714 (MOD)-DB6

C	0.50-0.60	S	<0.004	DIN-2714
Si	0.10-0.40	Cr	0.90-1.20	
Mn	0.65-0.90	Ni	1.40-1.65	
P	<0.015	Mo	0.45-0.55	
		V	0.07-0.12	SKT4

DIN 2738 (MOD)-P20 (HH)

DIN 1.2738 is specially used for Plastic injection die moulds. The characteristics of a material are right sharpening, photo-etching properties with high purity and good homogeneity. DIN 2738 is upgraded version of plastic mold steel Of 2311, which normally supply in Pre hardened condition. Hardness in as supplied condition 280-320 HB with having uniform hardness. The additional nickel content of 1 % increases through hardening. It has good machinability, suitable for texturing, fine polishability, adequate corrosion resistance, vacuum-degassed steel.

DIN 2738-P20 High Hard (HXM 24)

The modified version of 2738 is with High Hardness 360-400 BHN and increase alloy elements to get extra life and outstanding polishing.

Applications

P20 is the equivalent grade of DIN 2738 which is applicable for large & small plastic mould dies for Automotive Industries, Mould for Bumpers, Crates, Plastic Furniture, Dashboard, Television Cabinets, Boaster Plates of Presses, Die Holders & Shoe blocks for Drop Hammers, Press Cassettes, Upsetter Blocker, Forging Dies, Different Dies & Mould for Plastic products Etc.

C	0.35-0.45
Si	0.20-0.40
Mn	1.30-1.60
P	<0.015
S	<0.004
Cr	1.70-2.20
Ni	0.80-1.10
Mo	0.15-0.30

DIN 2738

P20+Ni

AISI P20

NAK80



MOULD AND DIE STEELS



AISI/SAE	JIS	ASSAB	BOHLER	C	SI	MN	CR	MO	NI	V	W	OTHERS
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VS 1.2311	(P20)*	...	(UHB 2311)*	M 201	0.4	...	1.5	2.00	0.20	...	...	...
VS 1.2312	P20+S	...	HOLDAX	M 200	0.4	...	1.5	2.00	0.20	...	...	S 0.07
VS 1.2738	P20+Ni	...	IMP.SUPREME	M 238	0.4	...	1.5	2.00	0.20	1.00	...	...
VS 1.2083	(420mod)*	SUS420.J2	STAVAX	M 310	0.4	...	...	13.00	...	...	...	...
VS 1.2083 ESR	420ESR	...	...	...	0.4	...	...	13.00	...	...	...	...
VS 1.2316	...	...	RAMAX S	M 300	0.4	...	...	16.00	1.20	0.30	...	...
VS 1.2316 ESR	420ESR MOD	...	...	...	0.4	...	...	16.00	1.20	0.30	...	...
VS 1.2767	...	...	GRANE	K 600	0.45	...	...	1.40	0.30	4.10	...	...
VS 1.2714	L6	(SKT 4)*	ALVAR 14	W 500	0.55	...	...	1.10	0.50	1.70	...	...
VS 1.4028	(420)*	...	...	M 330VMR	0.3	1.00	1.00	13.00	...	...	...	...

Hot Work Tool Steels



VS 1.2343	H 11	SKD 6	VIDAR Supreme	W300VMR	0.38	...	...	5.00	1.10	...	0.40	...	...
VS 1.2344 Std.	H 13	SKD 61	8407 Supreme	W 302	0.4	1.00	...	5.00	1.30	...	1.00	...	...
VS 1.2344 Prim.	H 13	...	...	...	0.4	1.00	...	5.00	1.30	...	1.00	...	...
VS 1.2344 VESR	H 13	...	...	...	0.4	1.00	...	5.00	1.30	...	1.00	...	...
VS 1.2347	H 13 + S	...	...	...	0.4	1.00	...	5.00	1.30	...	1.00	...	SO.10
VS 1.2367	...	...	ORD 90	W 303	0.4	...	...	5.00	3.00	...	0.60	...	...
VS 1.2767	...	...	(GRANE)*	K 600	0.45	...	...	1.40	0.35	4.00	...	...	...
VS 1.2606	H 12	SKD 62	UHB 2606	W 304	0.37	1.00	...	5.20	1.50	...	0.30	...	...
VS 1.2885	H 10 A	...	...	W 321	0.39	...	...	2.80	2.80	...	0.50	1.30	Co 2.80

COLD WORK TOOL STEELS



VS 1.1545	W110	SK 3	UHB 20	K 990	1.00	...	...	...	...	...	...	...	...
VS 1.2080	D3	SKD 1	XW 5	K 100	2.00	...	...	12.00	...	...	...	...	...
VS 1.2363	A2	SKD 12	XW 10	K 305	1.00	...	...	5.00	1.00	...	0.20	...	...
VS 1.2365	H 10	...	...	...	0.30	...	...	3.00	2.80	...	0.55	...	...
VS 1.2379	D2	(SKD 11)*	XW 42	K 110	1.55	...	...	12.00	0.70	...	1.00	...	...
VS 1.2601	(D2)*	(SKD 11)*	XW 42	K105	1.65	...	...	11.50	0.60	...	0.30	0.50	...
VS 1.2436	D6	...	XW 5	K 107	2.10	...	...	12.00	...	...	...	0.70	...
VS 1.2510	O1	SKS 3	DF 3	K 460	1.00	...	1.00	0.60	...	...	...	0.30	...
VS 1.2550	S1	(SKS 41)*	M 4	K 455	0.60	...	...	1.10	...	...	0.20	2.00	...
VS 1.2842	O2	...	AROS	K720	0.90	...	2.00	0.35	...	...	0.10	...	...

HIGH SPEED STEELS



VS 1.3243	M 35	SKH 55	...	S 705	0.90	0.30	0.30	4.00	5.00	...	1.90	6.30	Co 5.00
VS 1.3247	M 42	SKH 59	...	S 500	1.09	...	...	3.90	9.40	...	1.20	1.50	Co 7.80

ANTI-COERSIVE STEELS



VS 1.4006	(410)*	SUS 410	UHB 4006	N 100	0.11	...	...	13.00	...	...	...	...	...
VS 1.4021	420	SUS 420I1	UHB 4021	N 320	0.20	...	...	13.00	...	...	...	...	...
VS 1.4057	431	SUS 431	UHB 4057	N 350	0.17	...	...	16.50	...	2.00	...	...	...
VS 1.4313	F6NM	SCS 5	...	...	<0.05	...	...	13.50	0.60	4.00	...	...	...
VS 1.4462 Dpx	(BS318s13)*	...	UHB 4462	A 903	<0.03	...	...	22.00	2.60	5.50	...	No.12	...
VS 1.4542	630 (15.5 PH)	SCS 24	...	...	<0.07	...	...	16.00	...	4.00	...	Cu4.00	...

MACHINERY STEEL



VS 1.6523	8620	SNCM 220	...	E 116	0.20	...	0.80	0.60	0.20	0.60	...	...	...
VS 1.5752	3310/3415	SNC 815 N	UHB 5752	E 200	0.14	...	...	0.70	...	3.50	...	...	...
VS 1.5860	...	..	UHB 5860	Bohler G	0.14	...	...	1.10	...	4.50	...	...	...
VS 1.5919	3115	...	UHB 5919	E 230	0.17	...	...	1.55	...	1.55	...	...	...
VS 1.7147	5120	SMnC 420	UHB 7147	E 400	0.20	...	1.30	1.20	...	...	...	...	...
VS 1.5920	...	...	UHB 5920	E 220	0.17	...	...	1.95	...	1.95	...	...	...
VS 1.7176	5160	SUP 9	...	F 300	0.56	...	0.65	0.90	...	...	...	...	...
VS 1.8159	6145/6150	SUP 10	UHB 8159	F 530	0.51	...	0.90	1.10	...	0.10	...	...	...
VS 1.7220	4130	SCM 435	...	...	0.38	...	0.80	1.00	0.25	...	...	...	...
VS 1.7225	4140	SCM 440	UHB 709	V 320	0.40	...	0.80	1.00	0.25	...	...	...	...

Hardness Comparison Table Tensile Strength , Brinell , Vickers and Rockwell Hardness

TENSILE STRENGTH R	Brinell hardness Ball Indentation mm	Vickers hardness	Rockwell Hardness	TENSILE STRENGTH R	Brinell hardness Ball Indentation mm	Vickers hardness	Rockwell Hardness
N/mm255	d6.63	HB76.0	HRB80	N/mm1125	d3.34	HB333	HRC30N
270	6.45	80.7	85	1155	3.29	342	HRB350
285	6.30	85.5	90	1190	3.25	352	HRC35.5
305	6.16	90.2	95	1220	3.21	361	HRB36.6
320	6.01	95.0	100	1255	3.17	371	HRB37.4
335	5.90	90.8	105	1290	3.13	380	HRC38.8
350	5.75	105	110	1320	3.09	390	HRB39.9
370	5.64	109	115	1350	3.06	399	HRB40.8
385	5.54	114	120	1385	3.02	409	HRC41.8
400	5.43	119	125	1420	2.99	18	HRB42.7
415	5.33	124	130	1455	2.95	428	HRB43.6
430	5.26	128	135	1485	2.92	437	HRB44.5
450	5.16	133	140	1520	2.89	447	HRB45.3
465	5.08	138	145	1555	2.86	456	HRB46.9
480	4.99	143	150	1595	2.83	466	HRB47.7
495	4.93	147	155	1630	2.81	475	HRB48.4
510	4.85	152	160	1665	2.78	485	HRB49.1
530	4.79	156	165	1700	2.75	494	HRB49.8
545	4.71	162	170	1740	2.73	504	HRB50.5
560	4.66	166	175	1775	2.70	513	HRB50.9
575	4.59	171	180	1810	2.68	523	HRB51.1
595	4.53	176	185	1845	2.66	532	HRB51.7
610	4.47	181	190	1880	2.63	542	HRB52.3
625	4.43	185	195	1920	2.6	551	HRB53.6
640	4.37	190	200	1955	2.59	561	HRB54.1
660	4.32	195	205	1995	2.57	570	HRB54.7
675	4.27	199	210	2030	2.54	580	HRB55.2
690	4.22	204	215	2070	2.52	589	HRB55.7
705	4.18	209	220	2105	2.51	599	HRB56.3
720	4.13	214	225	2145	2.49	608	HRB56.8
740	4.08	219	230	2180	2.47	618	HRB57.3
755	4.05	223	235	...	...	...	HRB57.8
770	4.01	228	240	...	...	...	HRB58.3
785	3.97	233	245	...	...	...	HRB58.8
800	3.92	238	250	...	...	...	HRB59.2
820	3.89	242	255	...	...	...	HRB59.7
835	3.86	247	260	...	...	...	HRB60.1
850	3.82	252	265	...	...	...	HRB60.7
865	3.78	257	270	...	...	...	HRB61.8
880	3.75	261	275	...	...	...	HRB62.5
900	3.72	266	280	...	...	...	HRB63.3
915	3.69	271	285	...	...	...	HRB64.0
930	3.66	276	290	...	...	...	HRB64.7
950	3.63	280	295	...	...	...	HRB65.3
965	3.6	285	300	...	...	...	HRB65.9
995	3.54	295	310	...	...	...	HRB66.4
1030	3.49	304	320	...	...	...	HRB67.0
1060	3.43	314	330	...	...	...	HRB67.5
1095	3.39	323	340	...	...	...	HRB68.0

CONVERSION OF HARDNESS VALUES USING THIS CONVERSION TABLE ARE ONLY APPROXIMATE , SEE DIN 50 150 , DECEMBER 1976

TENSILE STRENGTH	N/mm2	Rs
Brinell hardness Calculate from: HB=0.95 HV (0.102 F/D=30) D=10	diameter of the bal indentation in mm Hardness value =0.102. 2F D (D.D.d)	d HB
Vickers hardness	Diameter Pyramid Test force>50 N Ball 1.588 mm(1/6*) Total test force =98 N Diamond Pyramid Total test force=1471 N Diamond Pyramid Total test force=294 N	HV HRB HRC HR 30 N
Rockwell hardness		



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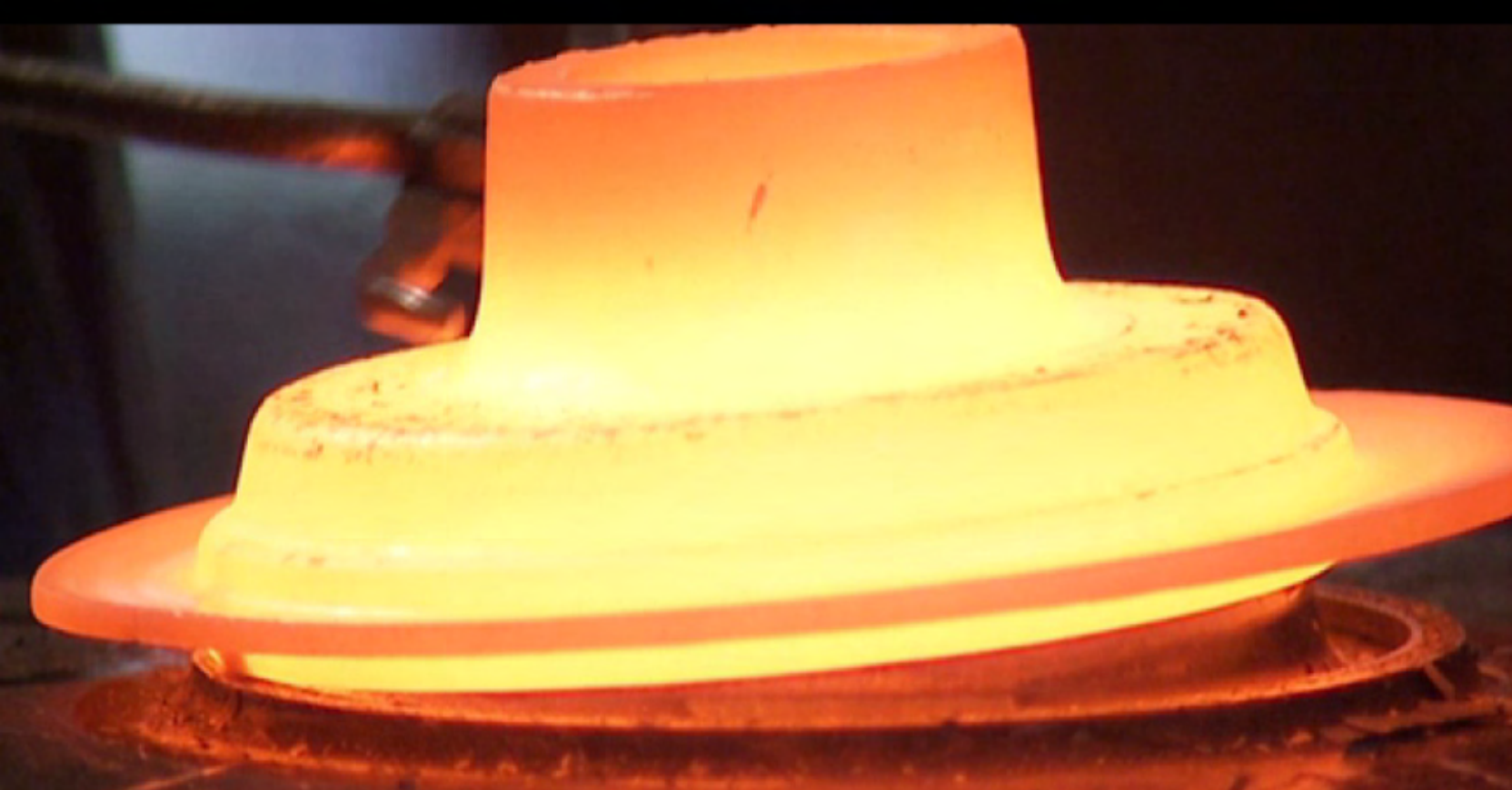
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