



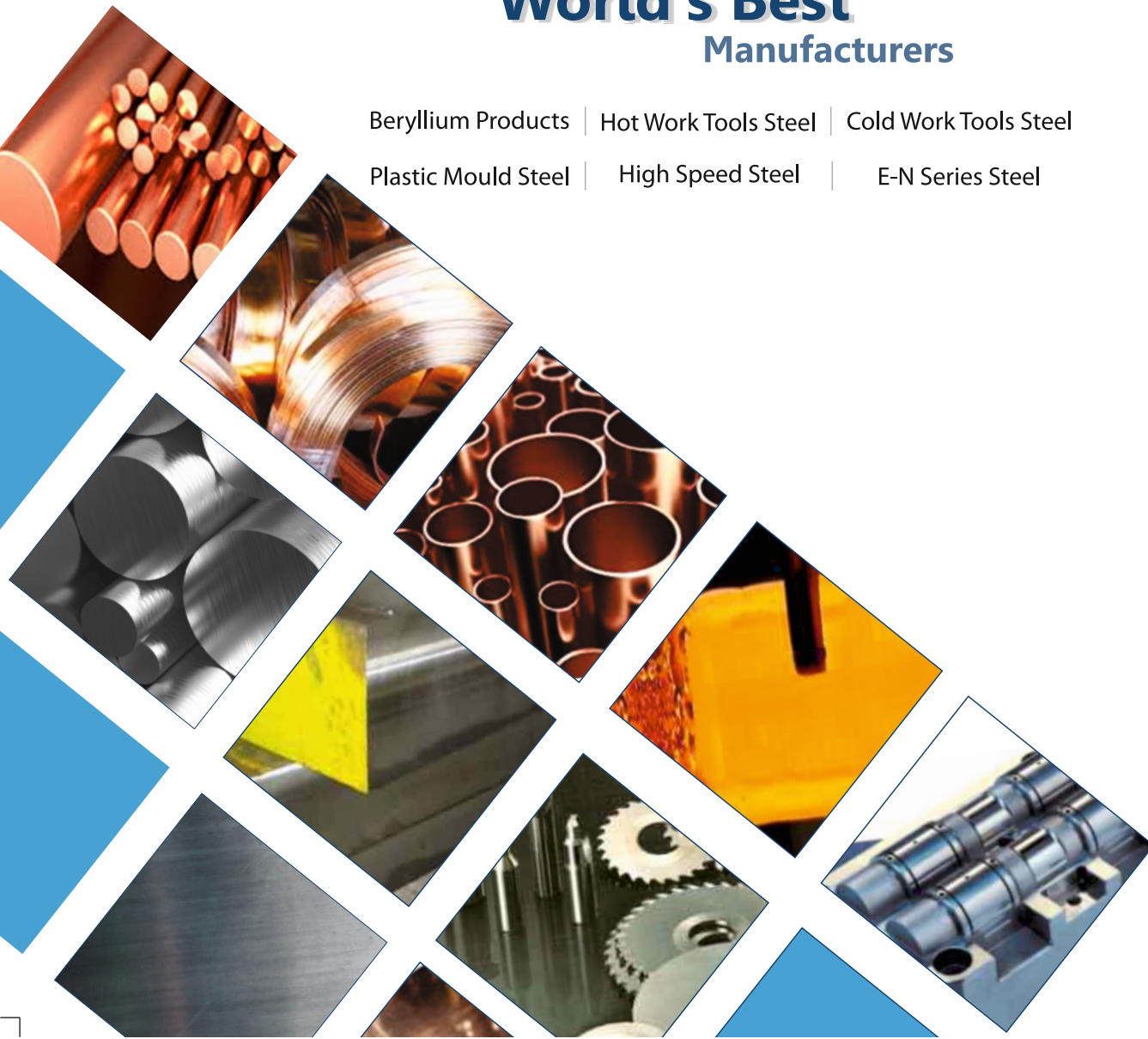
Since 1973

Vasa Speciality Steels Pvt. Ltd.

(The Vasa Group)

Quality Steels
providers from the
World's Best
Manufacturers

Beryllium Products | Hot Work Tools Steel | Cold Work Tools Steel
Plastic Mould Steel | High Speed Steel | E-N Series Steel



Cold Work Tool Steel

Brand	Chemical Composition in weight-%								Designation		Hardness	Properties	Applications		
	C	Si	Mn	S	Cr	Mo	V	Ni	Additions	DIN				AISI	
Cryodur 2210	1.20	-	-	-	0.70	-	0.10	-			(115CrV3)	L2	58 - 62 HRC	Cr-V alloyed, high wear resistance, good machinability	Piercing dies, guide rods, twist drills, ejector pins and wood chisels
Cryodur 2357	0.50	0.30	0.70	-	3.35	1.60	0.25	-			(50CrMoV13-15)	S7	54 - 58 HRC	High toughness, high wear resistance, high compression strength and dimensional stability, good polishability	Punching tools, moulds, scrap shears, piercing dies, hobs, coining dies, plastic moulds, tableting tools
Cryodur 2363	1.00	0.30	0.50	-	5.00	0.95	0.20	-			X100CrMoV5	A2	56 - 62 HRC	High dimensional stability during heat treatment, high wear resistance, good toughness	Cutting tools, rolls, shear blades, cold pilger mandrels, cold stamping tools, plastic moulds
Cryodur 2379	1.55	0.30	0.35	-	12.00	0.75	0.90	-			X153CrMoV12	D2	56 - 62 HRC	Ledeburitic 12 % Cr alloyed cold work tool steel, very high wear resistance and cutting edge retention, good tempering resistance, nitridable after special heat treatment	Threading rolls and dies, cold extrusion tools, trimming, cut-ting and stamping tools, precision cutting tools, cold pilger mandrels, rotary shear blades, deep-drawing tools, highly wear-resistant plastic moulds
Cryodur 2436	2.10	0.35	0.35	-	12.00	-	-	-	070W		X210CrW12	-D6	58 - 62 HRC	Ledeburitic 12 % Cr alloyed cold work tool steel, outstanding wear resistance and cutting edge retention	Blanking dies for cutting transformer sheets, dynamo sheets, paper and plastics, deep-drawing tools, drawing dies and mandrels, shear blades
Cryodur 2510	0.95	0.20	1.10	-	0.60	-	0.10	-	060W		(100MnCrW4)	O1	54 - 61 HRC	Good cutting edge retention, high hardenability, dimensional stability during heat treatment	Blanking and stamping dies for cutting sheets, threading tools, drills, broaches, gauges, measuring tools, plastic moulds, shear blades, guide rails
Cryodur 2550	0.60	0.60	0.35	-	1.10	-	0.20	-	2.00W		60WCrV8	-S1	54 - 58 HRC	Impact-resistant, oil-hardenable, very good toughness in combination with high hardenability	Blanking dies for cutting sheets, trimming and splitting dies, cold piercing punches, tableting tools, shear blades, chipping knives, pneumatic chisels, coining tools, cold shear blades, ejectors
Cryodur 2709	<0.02	-	-	-	-	5.00		18.00	10.00Co + 1.00Ti		(X3NiCoMoTi18-9-5)	-	51 - 55 HRC	Precipitation-hardened, low distortion, high hardness com-bined with very good toughness	Casings for cold extrusion tools, die casting dies, plastic moulds
Cryodur 2746	0.45	0.25	0.70	-	1.50	0.80	0.50	4.00			(45NiCrMoV16-6)		50 - 54 HRC	Air or oil-hardenable, high toughness combined with good cutting edge retention	Special steel for cold-shear blades, particularly for cutting scrap, drawing jaws, coining and bending tools
Cryodur 2767	0.45	0.25	0.35	-	1.40	0.20	-	4.00			45NiCrMo16	6F3	48 - 54 HRC	High hardenability and toughness, highly suitable for polishing and texturing	Cutlery dies, cutting tools for thick materials, billet-shear blades, drawing jaws, massive embossing and bending tools, plastic moulds, reinforcements
Cryodur 2826	0.63	0.80	1.10	-	0.30	-	-	-			(60MnSiCr4)	S4	51 - 59 HRC	High toughness, good elasticity in tempered condition	Special steel for spring collets
Cryodur 2842	0.90	0.20	2.00	-	0.40	-	0.10	-			90MnCrV8	02	56 - 60 HRC	Good cutting edge retention, high hardenability, dimensional stability during heat treatment	Universally usable, cutting and stamping tools, thread-cutting tools, reamers, gauges, measuring tools, plastic moulds, shear blades, guide rails, ejector pins
Cryodur 2990	1.00	0.90	-	-	8.00	1.10	1.60	-			(-X100CrMoV8-1-1)	-	57 - C3 HRC	Ledeburitic 8 % Cr alloyed special steel, high hardness and high wear resistance combined with good toughness, high tempering resistance	Cutting and punching tools including precision cutting tools, threading dies and rolls, rotary shear blades, cold pilger mandrels, strike plates, plastic moulds, cold-forming and deep-drawing dies, woodworking tools, cold rolls

Plastic Mould steel

Classification	Brand	Chemical Composition in weight in weight-%								Designation		Hardness	Properties	Applications	
		C	Si	Mn	S	Cr	Mo	V	Ni	Additions	DIN				AISI
Non - sulphurised	Formadur 2311	0.40	-	1.50	-	1.90	0.20	-	-	-	40CrMnMo7	P20	280 - 325 HB'	Good polishability, suitable for texturing, good machinability, through-hardenability up to 400 mm	Plastic moulds, mould frames for plastic moulds and die casting moulds
	Formadur 2738	0.40	-	1.50	-	1.90	0.20	-	1.00	-	40CrMnNiMo8-6-4	P20+Ni	280 - 325 HB'	Good polishability, suitable for texturing, good machinability, improved through-hardenability compared to Formadur 2311	Large plastic moulds. mould frames for plastic moulds and die casting moulds
	Formadur 320	0.34	-	0.80	-	1.70	0.40	-	0.50	-	-	-	310 - 355 NB'	Good polishability, improved texturing properties, good machinability, homogeneous hardness and microstructure compared to Formadur 2311/ 2738	Large-format plastic injection and extrusion moulds with deep engraving and high demands on core strength. large mould frames
	Formadur 400	0.36	-	0.90	-	1.90	0.50	-	0.50	+	-	-	365 - 410 FIB'	Excellent polishability, improved texturing properties, improved wear resistance and core hardness. homogeneous hardness and microstructure compared to Formadur 2311/ 2738	Plastic injection and extrusion moulds for all dimensions and deep engraving with high demands on polishability, wear resistance and core hardness
	Formadur 400 Superclean	0.36	-	0.90	-	1.90	0.50	-	0.50	+	-	-	365 - 410 1-113'	Best polishability, improved texturing properties, improved wear resistance and core hardness, best homogeneity of hardness and microstructure	As Formadur 400 with highest demands on polishability
Sulphurised	Formadur PH 42 Superclean	0.15	-	1.50	-	-	-	-	3.00	1.00 Al +1.00 Cu	(15N iCuA112-10-10)	-	36 - 40 HRC'	Best polishability, good texturing properties, good machinability, precipitation hardened, good dimensional stability, improved compressive strength	Suitable for all kinds of tools in plastic processing with high demands on strength, such as highly stressed plastic injection moulds, compression moulds. hot-runner
	Formadur 2312	0.40	-	1.50	0.05	1.90	0.20	-	-	-	-40CrMnMoS8-6	P20+S	280 - 325 NB'	Best machinability, through-hardenability up to 400 mm	Mould frames for plastic and die casting moulds. press surface quality
	Formadur 2083	0.40	-	-	-	13.00	-	-	-	-	X40Cr14	420	48 - 52 HRC	Good corrosion resistance, good polishability	Moulds and inserts for processing plastics with corrosive plastics
	Formadur 2083 Superclean	0.40	-	-	-	13.00	-	-	-	-	X40Cr1 4	420	48 - 52 HRC	Good corrosion resistance, excellent polishability	Moulds and inserts for processing plastics with corrosive plastics
	Formadur 2190 Superclean	0.37	0.90	0.50	-	13.60	-	0.30	-	-	-	(X37Cr13)	-	48 - 52 HRC	Good corrosion resistance, excellent polishability, improved through-hardenability compared to Formadur 2083
Corrosion resistance, Non-sulphurised	Formadur 2316	0.36	-	-	-	16.00	1.20	-	-	-	X38CrMo16	420mod	265 - 310 HB'	Excellent corrosion resistance, good polishability	As Formadur 2316 with highest demands on polishability, tools for plastic extrusion
	Formadur 2316 Superclean	0.36	-	-	-	16.00	1.20	-	-	-	X38CrMo16	420mod	265 - 310 NB'	Excellent corrosion resistance. very good polishability, improved homogeneity	High polished tools and moulds for processing of high corrosive plastics, tools for plastic extrusion
	Formadur PH X Superclean	0.05	-	-	-	15.00	-	-	4.50	3.50 Cu + Nb	(X5CrNiCuNb1 5-5)	-	38 - 42 HRC'	Best corrosion resistance, outstanding polishability, best homogeneity of hardness and microstructure, precipitation hardened, good dimensional stability	Mould frames, plastic moulds without special demands on surface quality
	Formadur 2085	0.33	-	-	0.05	16.00	-	-	0.50	-	X33CrS16	420PM	280 - 325 HB'	Corrosion-resistant, improved machinability compared to Formadur 2316	Base plates. mould bases and plastic moulds without special requirements on polishability. as well as being resistant to condensation and cooling water (All-Stainless-Concept)
	Corroplast	0.05	-	1.30	0.15	12.50	-	-	-	+	-	-	280 - 325 HB'	Corrosion-resistant, excellent machinability. improved weldability compared to Formadur 2085	Complex base plates and mould frames with highest demands on machinability and resistance to condensation and cooling water (All-Stainless-Concept), plastic moulds without special requirements on polishability
Corrosion resistance, Sulphurised	Corroplast FM	0.22	-	1.60	0.12	12.80	-	-	-	+	-	-	270 - 315 HB'	Corrosion-resistant, best machinability, best homogeneity of hardness and microstructure, good dimensional stability	

Hot Work Tool Steel

Brand	Chemical Composition in weight-%										Designation		Hardness	Properties	Applications
	C	Si	Mn	S	Cr	Mo	V	Ni	Addition s		DIN	AlSi			
Thermodur 2329	0.45	0.70	0.80	-	1.80	0.30	0.20	0.60	-		46CrSiMoV7	-	46 - 52 HRC	High tempering resistance, high-temperature strength, good hardenability, good weldability, nitridable, PVD and CVD coatable, good machinability	Forging dies, pressure disks for extrusion, compression moulding dies
Thermodur 2714	0.56	-	-	-	1.10	0.50	0.10	1.70	-		55NiCrMoV7	-	355 - 410 HB"	High toughness, high tempering resistance and through-hardenability	Standard steel for forging dies, press dies, auxiliary tools for extrusion, die holders, armored trim dies, hot shear blades
Thermodur 2343 EFS	0.38	1.00	-	-	5.30	1.30	0.40	-	-		X37CrMoV5-1	H11	42 - 52 HRC	High high-temperature strength, excellent toughness, very good thermal shock resistance, good temperature wear resistance and very good polishability	Universally usable e.g. die casting dies and moulds for light metal processing, mandrel bars, forging dies and inserts, shrink rings, hot shear blades, ejector pins and tools for plastic processing
Thermodur 2343 EFS Superclean	0.38	1.00	-	-	5.30	1.30	0.40	-	-		X37CrMoV5-1	H11	42 - 52 HRC	High high-temperature strength, excellent toughness, very good thermal shock resistance, good temperature wear resistance and outstanding polishability	As Thermodur 2343 EFS for your most challenging requirements
Thermodur 2344 EFS	0.40	1.00	-	-	5.30	1.40	1.00	-	-		X40CrMoV5-1	H13	42 - 52 HRC	Very high high-temperature strength, very high toughness, very good thermal shock resistance, very good temperature wear resistance and very good polishability	Universally usable e.g. die casting dies and moulds for light metal processing, mandrel bars, forging dies and inserts, hot shear blades, ejector pins and extrusion tools
Thermodur 2344 EFS Superclean	0.40	1.00	-	-	5.30	1.40	1.00	-	-		X40CrMoV5-1	H13	42 - 52 HRC	Very high high-temperature strength, very high toughness, very good thermal shock resistance, very good temperature wear resistance and outstanding polishability	As Thermodur 2344 EFS for your most challenging requirements
Thermodur 2365 EFS	0.32	-	-	-	3.00	2.80	0.50	-	-		32CrMoV12-28	H10	40 - 50 HRC	Very high high-temperature strength, high toughness, excellent thermal shock resistance, very good temperature wear resistance, may be water cooled, best cold hobbing properties	High speed forging machines, dies and inserts, extrusion dies for steel and heavy metal processing, heavy metal die casting tools, piercer plugs, steel for high alternating thermal stress
Thermodur 2367 EFS	0.37	-	-	-	5.00	3.00	0.60	-	-		,-X38CrMoV5-3	-	42 - 52 HRC	Excellent high-temperature strength, best tempering resistance, outstanding thermal shock resistance, very high toughness	Die casting dies and extrusion dies for light and heavy metal processing, dies and inserts, high speed forging machines
Thermodur 2367 EFS Superclean	0.37	-	-	-	5.00	3.00	0.60	-	-		,-X38CrMoV5-3	-	42 - 52 HRC	Excellent high-temperature strength, best tempering resistance, outstanding thermal shock resistance, highest toughness	As Thermodur 2367 EFS for your most challenging requirements
Thermodur 2999 EFS Superclean	0.45	0.30	0.30	-	3.00	5.00	1.00	-	-		X45MoCrV5-3-1	-	42 - 52 HRC	Excellent high-temperature strength, high toughness, very good high-temperature wear resistance, best thermal shock resistance, may be water-cooled	For use at highest temperatures, high wear-exposed die inserts, high speed forging machines, die casting dies for heavy metal processing
Thermodur E 38 K Superclean	0.35	0.30	0.30	<0.003	5.00	1.35	0.50	-	-			-	42 - 52 HRC	Highest toughness, outstanding thermal shock resistance, outstanding high-temperature strength, good thermal wear resistance, excellent duration tempering resistance, excellent homogeneity, outstanding isotropy	Universally usable for highly stressed tools and highest temperatures, die casting dies for light metal processing (especially for complex tools), extrusion dies for light and heavy metal processing (especially for difficulty shaped profiles), dies and inserts
Thermodur E 40 K Superclean	0.35	0.30	0.30	<0.003	5.00	1.75	0.80	-	-			-	42 - 52 HRC	Outstanding high-temperature strength, excellent toughness, very good thermal wear resistance, best thermal shock resistance, excellent duration tempering resistance, excellent homogeneity, outstanding isotropy	Universally usable for highly stressed tools and highest temperatures, die casting dies for light metal processing (especially for complex tools), extrusion dies for light and heavy metal processing (especially for difficulty shaped profiles), dies and inserts
Thermodur 2383 Supercool	0.45	-	0.90	-	-	1.50	1.50	0.90	-			-	40 - 54 HRC	Outstanding thermal conductivity, good wear resistance, good through-hardenability, best long-time tempering resistance, good high-temperature strength	Special steel for press hardening

High Speed Steel and PM-Steel

Classification	Brand	Chemical Composition in weight in weight-%									Designation		Hardness	Properties	Applications
		C	Si	Mn	S	Cr	Mo	V	Ni	Additions	DIN	AISI			
High speed Steel	Rapidur 3243	0.92	-	-	-	4.10	5.00	1.90	-	4.80 Co + 6.40 W	HS6-5-2-5	M35	63 -67 HRC	Co alloyed, high red hardness and tempering resistance, particularly suitable for conditions involving thermal stresses and discontinuous cutting	Heavy-duty milling cutters, highly stressed twist drills and taps, profile knives, machining of high-strength materials, broaches
	Rapidur 3247	1.08	-	-	-	4.10	9.50	1.20	-	8.00 Co + 1.50 W	HS2-9-1-8	M42	64 - 68 HRC	Mo based and high-carbon alloyed high speed steel, high wear resistance and red hardness, good grindability	For tools subject to severe mechanical wear, particularly suitable for die-sinking cutters, milling cutters and engraving machines, suitable for non-cutting shaping
	Rapidur 3343	0.90	0.30	0.30	-	4.10	5.00	1.90	-	6.40 W	HS6-5-2C	M2	61 - 65 HRC	Standard high-speed steel grade, high toughness and good cutting edge retention	Metal-cutting tools for roughing or finishing, shaping tools, woodworking tools, suitable for cold-forming tools
	Rapidur 3344	1.22	-	-	-	4.10	5.00	2.90	-	6.40 W	HS6-5-3	M3 Typ 2	62 - 66 HRC	Higher V and C content than Rapidur 3343, maximum wear resistance and cutting edge retention with sufficient toughness	Taps, reamers, heavy-duty milling cutters, rotary gear shaping and shaving cutters for processing of hard materials, hexagon socket punches and piercing dies for the nut production
Cold work tool steel	Cryodur PM-V10	2.45	0.90	0.50	0.50	5.30	1.30	10.00	-	-	-	-	59 -62 HRC	Exhibits a high hardness and wear resistance with an adequate toughness, microstructure consists of fine and homogeneous distributed vanadium rich monocarbides without segregations due to the powder metallurgical processing	Various applications for cold work: punches, bending dies, cold forming presses, cutting knives; screw conveyors
	Cryodur PM-V12	2.90	0.90	0.50	0.50	5.30	1.30	12.00	-	-	-	-	60- 63 HRC	Higher C and V content compared to Cryodur PM-V10 for higher hardness and wear resistance	Various applications for cold work: punches, bending dies, cold forming presses, cutting knives; screw conveyors
	Cryodur PM-V15	4.40	0.90	0.90	-	13.00	1.20	15.00	-	Ni + Co + W < 0.5			62 - 65 HRC	Higher C and V content compared to Cryodur PM-V10 and Cryodur PM-V12 for higher hardness and wear resistance, increased Cr for further improvement regarding hardness and wear resistance combined with medium corrosion resistance	Various applications for cold work: punches, bending dies, cold forming presses, cutting knives; screw conveyors; knives for the food industry
Powder metallurgical tool steel	Rapidur PM-23	1.30	-	-	-	4.20	5.00	3.00	-	6.4 W	1.3344 / 1.3395 HS 6-5-3	M3-2	58 - 65 HRC	Good red hardness, high bending and compressive strength, high wear resistance, better toughness and machinability properties compared to conventional produced high speed tool steels	Thread-cutting tools, reamers, heavy-duty milling cutters, drills, punching tools
	Rapidur PM-30	1.30	-	-	-	4.20	5.00	3.00	-	6.4 W + 8.5 Co	1.3294 / 1.3244 HS 6-5-3-8	M36	60 -68 HRC	Co alloyed, higher red hardness and tempering resistance compared to Rapidur PM-23	Thread-cutting tools, reamers, heavy-duty milling cutters, drills, punching tools
	Rapidur PM-52	1.60	-	-	-	5.00	2.00	5.00	-	10.5 W + 8.0 Co	1.3253 HS 10-2-5-8		62 -68 HRC	High W and Co contents, improved hot strength and wear resistance	Thread-cutting tools, heavy-duty milling cutters, drills for difficult to machine materials
	Rapidur PM-60	2.30	-	-	-	4.20	7.00	6.50	-	7.0 W + 10.5 Co	-1.3241 / 1.3292 HS 6-7-6-10		63 - 69 HRC	W and Co alloyed, increased volume fraction of carbides for highest wear resistance also at elevated temperatures	Heavy-duty cutting tools with very high requirements on red hardness and wear resistance
	Rapidur PM-M4	1.35	-	-	-	4.10	5.00	4.10	-	6.0 W	-1.3351 HS 6-5-4	M4	59 - 65 HRC	Rapidur PM-23 with increased C, V and carbide volume fraction for higher wear resistance	Thread-cutting tools, reamers, heavy-duty milling cutters, drills, punching tools

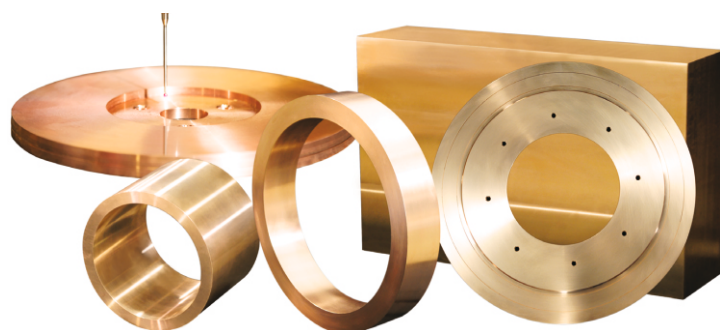
IBC Copper Alloys

Beryllium copper, chrome copper and aluminum bronze castings and forgings in plate, block, bar, rings. Plus specialty copper alloy forgings for plastic mold tooling and resistance welding applications.

IBC ADVANCED ALLOYS CORPORATION is a world wide manufacturer and supplier of advanced materials and other intermediate products with a focus on rare metals (beryllium) related alloys as well as non-ferrous alloys for a broad range of industrial applications including nuclear power, oil and gas, defense, electronics and automotive.

Our product offering includes:

- Forged and machined-to-print copper alloys, beryllium copper and aluminum bronze.
- Rounds, tubes, bars, and plates in a wide variety of copper alloys to all standard industry specifications.
- Custom forged rings for Oil and Gas, Aerospace, and Plastic Tooling applications.
- Casting and master alloys in Beryllium Copper, Beryllium Nickel, and Beryllium Aluminum.



AEROSPACE APPLICATIONS

Landing Gear Bushings
Door and Hatch Components
Actuator Bushings
Brake Systems
Speed Measurement and Instrumentation

OIL AND GAS INDUSTRY

Offshore Drilling Components
X-Mas Tree Valves
Drill Bit Bushings
Rotary Steerable Instrument Housings

PLASTIC TOOLING MARKET

Alloys with High Hardness and Thermal Conductivity
Core and Cavity Inserts for Injection Molds
Pinch-Offs and Parting Line Inserts for Blow Molds
Core Caps for Packaging Container Molds

WELDING, DIE-CASTING, AND FORMING INDUSTRIES

High Hardness and Thermal Conductivity Alloys
Resistance Welding

ibc IBC Advanced Alloys Corp.

Alloy Specifications



DELIVERING SOLUTIONS

Family	Alloy	ASTM	Military	Aerospace	RWMA	Plastic Tooling
CuBe	C17200	B196, B251, B643	QQ-C-530	AMS4533, AMS4534, AMS4535, AMS4650	CLASS 4	YES
	C17510	B196, B870			CLASS 3	
	C17500	B196, B870			CLASS 3	
CuCr	C18150				CLASS 2	
	C18200				CLASS 2	
	C18020					
CuNiSiCr	N/A				CLASS 4	YES
	C18000				CLASS 3	YES
Alum Bronze	C61400	B169, B171				
	C62400	B150				
	C62500					
	C63200	B124, B150, B170	QQ-C-465, MIL-B-24059			
	C63000	B124, B150, B171	QQ-C-465, MIL-B-16166	AMS4640, NFL 14-705		
	C63020			AMS4590, NFL 14-706		
	C64700	B411				
	C93200					
	C95400					
CuNi	C70600	B151, B122, B171, ASME SB151	MIL-C-15726F			
	C71500			NFL 14-701		
CuNiSi	UN3S					
OFHC	C10100	B170				
	C10700	B170				
	C10800	B170				
	C11000	B124				

Size and Shape Capability

DELIVERING SOLUTIONS

Shape	Min/Max wall	Min/Max Diameter	Max width	Max length
Plates	1"/24" (25/610mm)	-	48" (1220mm)	100" (2540mm)
Rounds	-	0.5"/20" (13/508mm)	-	144" (3658mm)
Tubes	0.25"/2" (7/50mm)	1"/8" (25/204mm)	-	144" (3658mm)
Rings	1"/4" (25/100mm)	8"/60" (204/1524mm)	12" (305mm)	-
Custom Forgings	Inquire	Inquire	Inquire	Inquire

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TSX-V:IB / OTCQX:IAALF

Product Data Sheet - C17200

C17200 is manufactured to provide a combination of high strength and hardness properties coupled with superior thermal properties. This range of properties makes C17200 the premier material for copper alloy molds and a wide range of other applications from oil and gas to aerospace.

Chemical Composition (Weight Percent)

DELIVERING SOLUTIONS						
Alloy	Beryllium	Cobalt	Nickel	Co + Ni	Co + Ni + Fe	Copper
C17200	1.80 – 2.00	-	0.20 min	0.20 min	0.60 max	Balance

Physical and Chemical Properties

DELIVERING SOLUTIONS					
Density lb/in ³	Elastic Modulus (10 ⁶ psi)	Coefficient of Thermal Expansion (in./in./°F)	Thermal Conductivity (btu/ft.hr.°F)	Melting Temperature °F	Heat Capacity (J/gK)
0.302	19	9.7 x10 ⁻⁶	56	1600-1800	0.44

Typical Mechanical Properties

DELIVERING SOLUTIONS							
Alloy	Temper	Thickness	Tensile Strength ksi	0.2% Offset Yield ksi	Elongation	Hardness HRC or HRb	Electrical Conductivity % IACS
C17200 Plate	A(TB00)	All sizes	60-85	20-40	20 min.	B45-85	17 min.
C17200 Plate	AT(TF00)	All sizes	165-200	140-175	4 min.	C36-42	22 min.
C17200 Rounds	A(TB00)	All sizes	60-85	20-40	20 min.	B45-85	17 min.
C17200 Rounds	AT(TF00)	Over 3" dia	165-200	130-175	4 min.	C36-42	22 min.

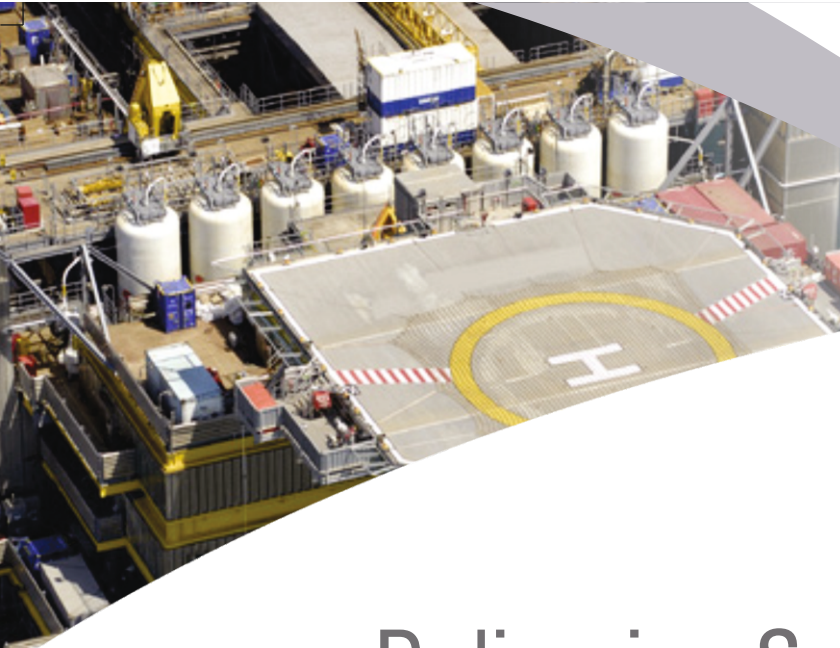
Forms Available:

Plate: Thickness 1.00 to 18.00 inches, width 36 inches max. x standard mill lengths up to 115 inches.

Rounds: Diameter 1.00 to 18.00 inches, standard mill lengths.

Rings: To 55.0 inches O.D.

IBC ADVANCED ALLOYS CORP.		COPPER ALLOYS
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An aerial view of an offshore oil rig, showing a large helipad with a yellow 'H' in the center, surrounded by various industrial structures, pipes, and storage tanks.

Delivering Solutions with High Performance Copper Alloys

IBC ADVANCED ALLOYS CORPORATION is a world wide manufacturer and supplier of advanced materials and other intermediate products with a focus on rare metals (beryllium) related alloys as well as non-ferrous alloys for a broad range of industrial applications including nuclear power, oil and gas, defense, electronics and automotive.

Our product offering includes:

- Forged and machined-to-print copper alloys, beryllium copper and aluminum bronze.
- Rounds, tubes, bars, and plates in a wide variety of copper alloys to all standard industry specifications.
- Custom forged rings for Oil and Gas, Aerospace, and Plastic Tooling applications.
- Casting and master alloys in Beryllium Copper, Beryllium Nickel, and Beryllium Aluminum.

AEROSPACE APPLICATIONS

Landing Gear Bushings
Door and Hatch Components
Actuator Bushings
Brake Systems
Speed Measurement and Instrumentation

OIL AND GAS INDUSTRY

Offshore Drilling Components
X-Mas Tree Valves
Drill Bit Bushings
Rotary Steerable Instrument Housings

PLASTIC TOOLING MARKET

Alloys with High Hardness and Thermal Conductivity
Core and Cavity Inserts for Injection Molds
Pinch-Offs and Parting Line Inserts for Blow Molds
Core Caps for Packaging Container Molds

WELDING, DIE-CASTING, AND FORMING INDUSTRIES

High Hardness and Thermal Conductivity Alloys
Resistance Welding

A close-up view of the landing gear of a large commercial airplane, showing multiple wheels and the structural components.

IBC Advanced Alloys Corp.

Alloy Specifications



DELIVERING SOLUTIONS

Family	Alloy	ASTM	Military	Aerospace	RWMA	Plastic Tooling
CuBe	C17200	B196, B251, B643	QQ-C-530	AMS4533, AMS4534, AMS4535, AMS4650	CLASS 4	YES
	C17510	B196, B870			CLASS 3	
	C17500	B196, B870			CLASS 3	
CuCr	C18000				CLASS 3	YES
	C18150				CLASS 2	
	C18200				CLASS 2	
	C18020					
CuNiSiCr	N/A					YES
Alum Bronze	C61400	B169, B171				
	C62400	B150				
	C62500					
	C63200	B124, B150, B170	QQ-C-465, MIL-B-24059			
	C63000	B124, B150, B171	QQ-C-465, MIL-B-16166	AMS4640, NFL 14-705		
	C63020			AMS4590, NFL 14-706		
	C64700	B411				
	C93200					
	C95400					
CuNi	C70600	B151, B122, B171, ASME SB151	MIL-C-15726F			
	C71500			NFL 14-701		
CuNiSi	UN3S					
OFHC	C10100	B170				
	C10700	B170				
	C10800	B170				
	C11000	B124				

Size and Shape Capability

DELIVERING SOLUTIONS

Shape	Min/Max wall	Min/Max Diameter	Max width	Max length
Plates	1"/24"	-	48"	100"
Rounds	-	0.5"/20"	-	144"
Tubes	0.25"/2"	1"/8"	-	144"
Rings	1"/4"	8"/60"	12"	-
Custom Forgings	Inquire	Inquire	Inquire	Inquire

CORPORATE

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Quality Steel providers from the world's best manufacturers.....

Our company, Vasa Speciality Steels Pvt. Ltd. with our registered office at Mumbai Borivali West and Sales & marketing office Mumbai at Borivali West branch & associate offices at Vasai, Paidhuni, Surat, Pune, Silvassa and Mumbai respectively is one of the leading companies in India, specialized in marketing & supply of Hot Work Tool Steels / Cold Work Tool Steels / Plastic Mould Steels & High Speed Steels & Beryllium Alloys & Special Steels & Alloys, pipes & tubes, forgings & castings, rolling mill rolls, plant & equipment, Mandrel bars, Alloyed Aluminium etc. from our renowned overseas principals.

Having gained vast experience in marketing of above products, we have got representation from quality mills & stockiest / distributors in Europe, USA, Singapore and China, and have been offering products to our Indian clients, after considering various aspects of reliability, trustworthy, quality and timely delivery of products, because of which we have been successful in catering to the demands of leading private and public sector undertakings.

Our principals are committed to factors of meeting tight schedules, price factor and customer satisfaction, and we believe these are necessary to establish and maintain a win-win and long-term relationship for all of us.

Our Products:

- **Beryllium Alloys**
 - Pipes, Tubes, Fittings & Hollow Sections
 - High Temperature Alloys
 - Aircraft Release Materials
 - Aluminium, Titanium & Nickel Alloys
 - Special Metals & Alloys
 - Drilling Tools for Oil & Gas Exploration
 - Steel & SS Plates / Sheets / Bars
 - Copper Alloys
 - Heavy Forgings & Castings
- **Tool & Die Steel**
 - Powder Metallurgy HSS
 - Power Plant Equipment
 - Rolling Mill Rolls
 - Marine Propulsion System
 - Mandrel Bars
 - Phosphorous Bronze

Industries we serve:

- **Die & Mould**
 - Defense
 - Automotive
 - Resistance Welding
 - Manufacturing
 - Electronics
 - Industrial Equipment
 - Injection Moulding
 - Foundry
 - Aerospace
 - Oil and Gas



Since 1973

**Vasa Speciality Steels Pvt. Ltd.
(The Vasa Group)**

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(Business Partner: SanKap Special Steel)

www.thevasagroup.com

Our Financial Advisory Arm:



CORPORATE ADVISORS AND RESOLUTIONS
CHARTERED ACCOUNTANTS • MUMBAI

1. Investment Banking

- a. Mergers & acquisitions
- b. Debt financing for projects & startups
- c. Structured finance & bridge funding
- d. Distressed debt advisory

2. Tax Advisory

- a. Tax litigation
- b. Cross-border tax advisory
- c. Tax efficient business re-organization
- d. Representation under search & seizure operations

3. Corporate Advisory

- a. Accounting & finance
- b. Treasury & forex management
- c. Valuation and credit rating advisory
- d. Legal, secretarial & compliance services

Team:

Amit Doshi | CA, LL.B.

12 years in Investment Banking

Pratik Doshi | CA

10 years as Financial Controller

Simoni Doshi | CA, LL.B.

10 years in Direct Tax Litigation & Advisory

Dhara Doshi | CA

8 years in Direct Tax Advisory & Audit

Roshan Jhunjunwala | CA

17 Years in Finance and Taxation