CUTTING TOOLS FROM SANDVIK COROMANT

Rotating tools

MILLING
DRILLING
TAPPING
BORING
REAMING
ROTATING TOOL ADAPTERS

2015

ISO 13399 is an international standard that strives to simplify the exchange of data for cutting tools. You will notice a slight difference through the new parameters and descriptions of each tool.

For the first time ever, there is a standardized way of describing product data regarding cutting tools. When all tools in the industry share the same parameters and definitions, communicating tool information between software systems becomes very straightforward.

How this benefits you

Basically, it means that your systems can talk to ours, as they all speak the same language. Download product data from our web site and use it directly in your CAD/ CAM software to assemble tools that you use in production. No need to look for information in catalogs and interpret data from one system to another. Imagine how much time this will save you!

Short name	Preferred Name
ADJLN	Minimum adjustment limit
ADJLX	Maximum adjustment limit
ADJRG	Adjustment range
ALP	Axial clearance angle
AN	Clearance angle major
ANN	Minor clearance angle
APMX	Depth of cut maximum
APMX_EFW	Depth of cut maximum – End feed
APMX_FFW	Depth of cut maximum – Side feed
AZ	Maximum plunge depth
B	Shank width
BAWS	Workpiece side body angle
BAMS	Body angle machine side
BBD	Balanced by design
BBR	Balanced by rotational test
BCH	Corner chamfer length
BD	Body diameter
BHTA	Body half taper angle
BN	Face land width
BS	Wiper edge length
BSG	Basic standard group
BSR	Wiper edge radius
CDX	Cutting depth maximum
CEMR	Cutting edge major radius
CF	Spot chamfer
CHBA	Chamfer body angle
CHBL	Chamfer body length
CHW	Corner chamfer width
CICT	Cutting item count
$CICT_E$	Cutting item count – End position
$CICT_P$	Cutting item count – Peripheral position
$CICT_S$	Cutting item count – Side position
$CICT_T$	Cutting item count – Total
CND	Coolant entry diameter
CNSC	Coolant entry style code
CNT	Coolant entry thread size
COATING	Coating
CP	Max coolant pressure
CRKS	Connection retention knob thread size
CRNT	Coolant radial entry thread size
CTPT	Operation type
CUTDIA	Work piece parting diameter maximum
CW	Cutting width
CWN	Minimum cutting width
CWTOLL	Cutting width lower tolerance
CWTOLU	Cutting width upper tolerance
CWX	Cutting width maximum
CXSC	Coolant exit style code
CZC	Connection size code
CZC_{MS}	Connection size code machine side
CZC_{WS}	Connection size code workpiece side
D1	Fixing hole diameter
DAH	Diameter access hole

DAXIN	Axial groove inside diameter minimum
DAXN	Minimum axial-groove outside diameter
DAXX	Maximum axial groove outside diameter
DBC	Diameter bolt circle
DC	Cutting diameter
DCB	Connection bore diameter
DCBN	Connection bore diameter minimum
DCBX	Connection bore diameter maximum
DCF	Cutting diameter face contact
DCIN	Cutting diameter internal
DCN	Minimum cutting diameter
DCON	Connection diameter
$DCON_{MS}$	Connection diameter machine side
$DCON_{WS}$	Connection diameter work piece side
$DCSF_{MS}$	Contact surface diameter machine side
$DCSF_{WS}$	Workpiece side contact surface diameter
DCX	Maximum cutting diameter
DHUB	Hub diameter
DIX	Maximum tool changer interference diameter
DMIN	Minimum bore diameter
DMM	Shank diameter
DN	Neck diameter
DRVCT	Drive count
DSGN	Design
EPSR	Insert included angle
FHA	Flute helix angle
FLGT	Flange thickness
FTDZ	For thread diameter size
H	Shank height
HA	Thread height theoretical
HB	Thread height difference
HBH	Head bottom offset height
HC	Actual thread height
HF	Functional height
HRY	Lowest point from reference plain
HTB	Body height
HTH	Height
IC	Inscribed circle diameter
INSL	Insert length
INSUC	Insert usage code
IZC	Insert size code
KAPR	Tool cutting edge angle
KAPR_EFW	Tool cutting edge angle – End feed
KCH	Corner chamfer
KRINS	Major cutting-edge angle
KWW	Keyway width
L	Cutting edge length
LAMS	Inclination angle
LB	Body length
LCF	Chip flute length
LCOX	Cut off length maximum
LE	Cutting edge effective length
LF	Functional length
LFN	Minimum functional length
LH	Head length
LPR	Protruding length
LS	Shank length
LSC	Clamping length
LSCN	Minimum clamping length
LSCS	Distance to clamping start
LSCX	Maximum clamping length
LSD	Dead shank length
LU	Usable length (max. recommended)
LU_BFW	Usable length – Back facing
LUX	Usable maximum length
MHD	Mounting hole distance
MIID	Master insert identification
$MIID_E$	Master insert identification – End position
$MIID_S$	Master insert identification – Side position
$MIID_C$	Master insert identification – Central position
$MIID_P$	Master insert identification – Peripheral position
$MIID_I$	Master insert identification – Intermediate position
MMCC	Code for preset torque
MMCX	Max cutting torque
NOF	Flute count
NT	Tooth count
OAH	Overall height
OAL	Overall length
OAW	Overall width

OH	Overhang recommended
OHN	Minimum overhang
OHX	Maximum overhang
ORDCODE	Order code
PCL	Peripheral cylindrical length
PDX	Profile distance ex
PDY	Profile distance ey
PHD	Premachined hole diameter
PHDX	Maximum premachined hole diameter
PL	Point length
PNA	Profile included angle
PRFRAD	Profile radius
PRSPC	Profile specification
PSIR	Tool lead angle
PSIRL	Major left hand cutting edge angle
PSIRR	Major right hand cutting edge angle
PSW	Pre-machined slot width
RADH	Radial body height
RADW	Radial body width
RAR	Right-hand relief angle
RE	Corner radius
REL	Corner radius left
RER	Corner radius right
RETOLL	Corner radius lower tolerance
RETOLU	Corner radius upper tolerance
RGL	regrind length
RMPX	Maximum ramping angle
RPMX	Rotational speed maximum
S	Insert thickness
SDL	Step diameter length
SIG	Point angle
SPTL	Split line
SSC	Insert seat size code
SSC_E	Insert seat size code – End position
SSC_P	Insert seat size code – Peripheral position
SSC_S	Insert seat size code – Side position
STA	Step included angle
SUBSTRATE	Substrate
TCDC	Tolerance class cutting diameter
TCDCON	Connection diameter tolerance
TCDMM	Shank diameter tolerance
TCHA	Achievable hole tolerance
TCHAL	Achievable hole tolerance lower
TCHAU	Achievable hole tolerance upper
TCT	Tolerance class tool
TCTR	Thread tolerance class
TD	Thread diameter
TDZ	Thread diameter size
TFLA	Tap floating length ahead
TFLB	Tap floating length behind
TG	Taper gradient
THBTP	Thread back taper property
THCA	Thread helix correction angle
THCHT	Threading chamfer type
THFT	Thread form type
THFTS	Thread form standard series
THL	Thread length
THUB	Hub thickness
TP	Thread pitch
TPI	Threads per inch
TPIN	Minimum threads per inch
TPIX	Maximum threads per inch
TPN	Minimum thread pitch
TPT	Thread profile type
TPX	Maximum thread pitch
TRMAX	Tap range max
TQ	Torque
TSYC	Tool style code
TTP	Thread type
ULDR	Usable length diameter ratio
VCX	Maximum cutting speed
W1	Insert width
WB	Body width
WF	Functional width
WFCIRP	Width to cutting item reference point
WSC	Clamping width
WT	Weight of item
ZEFF	Face effective cutting edge count
ZEFP	Peripheral effective cutting edge count (ZEFP)
ZWX	Maximum number of Wiper inserts

Conversion table

Metric to imperial

Distance

1 meter = 39.370 inch
1 meter = 3.281 feet
1 millimeter = 0.039 inch

Weight

1 kilogram = 2.205 pounds
1 kilogram = 35.274 ounces

Torque

1 Newton meter (Nm) = 0.738 pound-force feet (ft-lbs)

1 Newton meter (Nm) = 8.851 pound-force inches (in-lbs)

Imperial to metric

Distance

1 inch = 25.4 millimeter
1 foot = 0.3 meter
1 foot = 304.8 millimeter

Weight

1 pound = 0.45 kilogram
1 ounce = 28.35 gram

Torque

1 pound-force foot (ft-lbf) = 1.4 Newton meter (Nm)

1 pound-force inch (in-lbf) = 0.1 Newton meter (Nm)

Formulas and definitions:

	Metric	**Imperial**
v_c = Cutting speed	m/min (meter/minute)	ft/min (feet/minute)
n = Spindle speed	rpm (revolution per minute)	
v_f = table feed	mm/min	inch/min
z_n = total number of cutting edges		
z_c = number of effective cutting edges		
f_z = feed per tooth	mm/z	inch/z
f_n = Feed per revolution	mm/rev	inch/rev
h_{ex} = maximum thickness	mm	inch
a_p = Cutting depth	mm	inch
l_a = insert width	mm	inch
a_e = cutting width	mm	inch
a_e/D_c % = Radial immersion	%	%
T = Machining time	min	min
Q = Metal removal rate	cm^3/min	$inch^3$/min
nap = number of passes		
TPI = threads per inch		
k_c = specific cutting force	N/mm^2	lbs/in^2
R_a = Surface roughness	µm	µin

Insert size

iC = inscribed circle in inch

△ = cutting edge length in mm

Tailor Made

Additional tool options designed for your specific requirements.

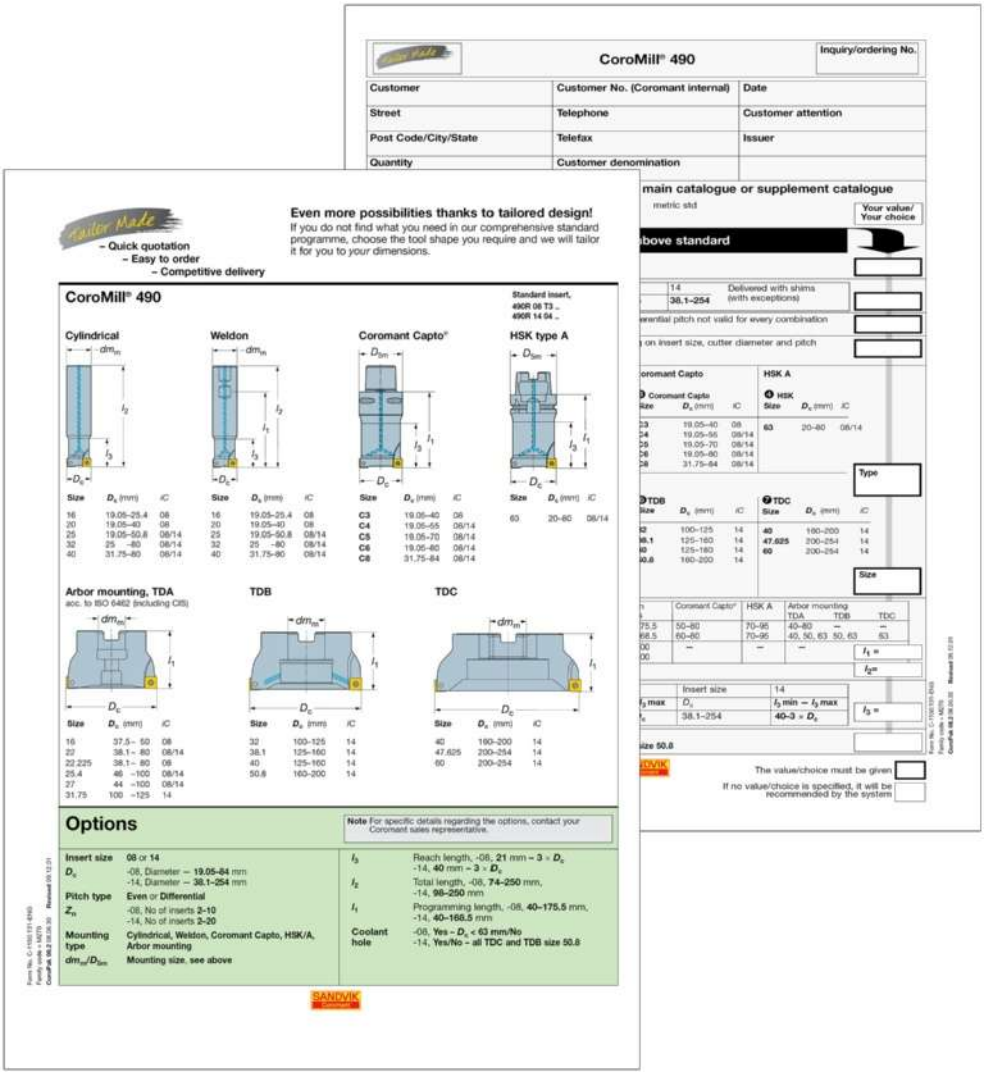
In addition to our comprehensive standard program, we can offer tools to your dimensions on standard tool terms. With our Tailor Made Service, you are free to specify your own dimensions.

...and engineered solutions

When standard and Tailor Made solutions do not fulfill your needs you can depend on Sandvik Coromant's extensive experience in engineered tool solutions to cope with particularly demanding criteria.

Download Tailor Made forms in PDF format at www.sandvik.coromant.com/us.

For specific details, contact your Sandvik Coromant sales representative.



Milling	Additional tool options
CoroMill 200 face milling and profiling cutter	- Insert size - Number of inserts - Diameter - Shim - Pitch type - Mounting type and size - Tool length
CoroMill 210 for face milling and plunging	- Insert size - Number of inserts - Diameter - Mounting type and size - Tool length - Coolant
CoroMill 245 face milling cutter	- Number of inserts - Right/Left, diameter - Pitch type - Mounting type and size - Tool length
CoroMill 300 face milling and profiling cutter	- Insert size - Number of inserts - Diameter - Pitch type - Mounting type and size - Tool length - Coolant
CoroMill 390 square shoulder face mill	- Insert size - Diameter - Pitch type - Mounting type and size - Tool length - Coolant
CoroMill 390 endmills	- Insert size - Number of inserts - Diameter - Pitch type - Mounting type and size - Tool length - Coolant
CoroMill 390 long edge milling cutters	- Insert size - Number of inserts - Diameter - Pitch type - Mounting type and size - Tool length - Coolant

Milling	Additional tool options
CoroMill® 419	- Number of inserts - Pitch type - Coupling, Capto, Arbor, Cylindrical - Functional length - Maximum cutting diameter - Coolant option: Yes or No
CoroMill® 490 face and shoulder mill	- Number of inserts - Diameter - Pitch type - Mounting type and size - Tool length - Coolant (D_c<2.500 inch)
CoroMill Century face milling inserts	- Insert grade - Right/Left hand - Depth of cut - Corner shape - Wiper design
CoroMill 790 square shoulder face mill	- Insert size - Number of inserts - Diameter - Pitch type - Mounting type and size - Tool length - Coolant
CoroMill 331 side and face milling cutter	- Cutter type - Right/Left hand - Insert size - Diameter - Pitch type - Mounting type and size
CoroMill 331 inserts	- Insert size - Insert geometry - Insert shape/radius - Corner radius - Insert grade

Drilling

	Additional tool options
Coromant Delta	- Drill diameter - Carbide grade - Drill depth - Chamfers/corner radius - Tolerance - Mounting type and size - Coolant supply
CoroDrill® 860	- Drill diameter - Drill depth - Tolerance - Mounting type and size - Coolant supply - Drill type - Coating (valid for -NM geometry)
CoroDrill® Delta-C	- Drill diameter/step - Carbide grade - Drill depth - Chamfers/corner radius - Tolerance - Mounting type and size - Coolant supply
CoroDrill® 460	- Drill diameter - Drill depth - Tolerance - Mounting type and size - Coolant supply - Drill type - Coating
CoroDrill® 870	**Drill tip** - Drill tip diameter - Point angle - Corner chamfer - Corner radius - Grade **Drill body** - Drill depth - Mounting type and size - Step and chamfer drill - Optimized drill body diameter
CoroDrill® 880	- Drill diameter - Drill length - Drill depth - Mounting type and size - Flute length
CoroDrill® 880 step and chamfer	- Drill diameter - Drill depth - Chamfers/corner radius - Mounting type and size - Coolant supply - Supporting insert
CoroDrill® 881	- Drill diameter - Drill length - Drill depth - Mounting type and size
Coromant U indexable insert drill	- Drill diameter/step - Number of extra inserts - Chamfer inserts - Drill length - Drill depth - Mounting type and size - Flute length

Tapping

Additional tool options

CoroTap™ 100/200/300

- Thread form
- Pitch
- Standard
- Number of flutes
- Tolerance
- Oversize/Undersize
- Coating
- Coolant supply
- Direction of cut
- Chamfers
- Interrupted threads

Reaming

Additional tool options

CoroReamer™ 835 and 435

- Diameter
- Tolerance

Tooling system

Additional tool options

Shanks for exchangeable head system (EH)

- EH coupling size
- Diameter
- Cylindrical or Weldon

- Shank length
- Design, conical or straight

CoroChuck™ 930

- Coupling type
- Coupling size
- Design
- Programing length

Coromant Capto®
Extension/reduction adapters

- Length
- Diameter
- Rotated polygon 90°/180°/270°

For the sake of the environment

Get into the Coromant Recycling Concept (CRC) now!

The Coromant Recycling Concept (CRC) is a comprehensive service for used carbide inserts (including CBN and PCD if “carrier” is cemented carbide) and solid carbide tools offered by Sandvik Coromant to all its customers.
In the light of increasing consumption of non-renewable raw materials, the economic management of dwindling resources is a duty owed by all manufacturers.
Sandvik Coromant is playing its part by offering to collect used carbide inserts and solid carbide tools and recycle them in the most environmently friendly way.
All used hard-metal inserts are collected in the collection box at the workplace.
When the collection box is sufficiently full, its contents are transferred to the transport box. The full transport box is then sent to the nearest Sandvik Coromant office or to your Coromant dealer who can also give you more information.

The benefits of the CRC speak for themselves

- A one-stop worldwide recycling system.
- For direct and trade customers.
- Simple procedure with collection and transport boxes.
- Less waste, easing the burden on the environment.
- Better utilisation of resources.
- Other manufacturers' carbide inserts are also accepted.

Order collection boxes for each lathe, milling machine, drill or for your machining center. We recommend one collection box for inserts and one separate box for solid carbide tools for each cutting workplace.

	Order numbers
Collection box (yellow):	91617
Transport box for solid carbide tools (wooden):	92994
Transport box inserts (wooden):	92995

Safety information in connection with grinding of cemented carbide

Material compositon

Hard metal products contain tungsten carbide and cobalt. Other substances may contain titanium carbide, tantalum carbide, niobium carbide, chromium carbide, molybdenum carbide or vanadium carbide. Some grades contain titanium carbo nitride and/or nickel.

Routes of exposure

Grinding or heating of hard metal blanks or hard metal products will produce dust or fumes with dangerous ingredients that can be inhaled, swallowed or come in contact with the skin or eyes.

Acute toxicity

The dust is toxic by inhalation. Inhalation may cause irritation and inflammation of the airways. Significantly higher acute inhalation toxicity has been reported during simultaneous inhalation of cobalt and tungsten carbide compared to inhalation of cobalt alone.
Skin contact can cause irritation and rash. Personnel whose skin is sensitive may experience an allergic reaction.

Chronic toxicity

Repeated inhalation of aerosols containing cobalt may cause obstruction in the airways. Prolonged inhalation of increased concentrations may cause lung fibrosis or lung cancer. Epidemiological studies indicate that workers exposed in the past to high concentrations of tungsten carbide/cobalt carried an increased risk of developing lung cancer.
Cobalt and nickel are potent skin sensitizers. Repeated or prolonged contact can cause irritation.

Risk phrases

Toxic: danger of serious damage to health by prolonged exposure through inhalation
Toxic by inhalation
Limited evidence of a carcinogenic effect.
May cause sensitization by inhalation and skin contact

Preventive measures

Avoid formation and inhalation of dust. Use adequate local exhaust ventilation to keep personal exposure well below the nationally authorised limits.

- If ventilation is not available or adequate, use respirators nationally approved for the purpose.
- Use safety goggles or glasses with side shields when necessary.
- Avoid repeated skin contact. Wear suitable gloves. Wash skin thoroughly after handling.
- Use suitable protective clothing. Launder clothing as needed.
- Do not eat, drink or smoke in the working area. Wash skin thoroughly before eating, drinking or smoking.

Material cross reference list

ISO	MC	CMC	Country / Standard	Germany	Great Britain		Sweden	USA	France	Italy	Spain	Japan
			Europe									
			DIN EN	W.-nr.	BS	EN	SS	AISI/SAE/ASTM	AFNOR	UNI	UNE	JIS
P	**Unalloyed steel**											
Steel	P1.1.Z.AN	01.1	S235JR G2	1.0038	4360 40 C	-	1311	A570.36	E 24-2 Ne	-	-	STKM 12A;C
	P1.1.Z.AN	01.1	S235J2 G3	1.0116	4360 40 B	-	1312	A573-81 65	E 24-U	Fe37-3	-	-
	P1.1.Z.AN	01.1	C15	1.0401	080M15	-	1350	1015	CC12	C15C16	F.111	-
	P1.1.Z.AN	01.1	C22	1.0402	050A20	2C/2D	1450	1020	CC20	C20C21	F.112	-
	P1.1.Z.AN	01.1	C15E	1.1141	080M15	32C	1370	1015	XC12	C16	C15K	S15C
	P1.1.Z.AN	01.1	C25E	1.1158	-	-	-	1025	-	-	-	S25C
	P1.1.Z.AN	01.1	S380N	1.8900	4360 55 E	-	2145	A572-60	-	FeE390KG	-	-
	P1.1.Z.AN	01.1	17MnV7	1.0870	4360 55 E	-	2142	A572-60	NFA 35-501 E 36	-	-	-
	P1.1.Z.AN	02.1	55Si7	1.0904	250A53	45	2085	9255	55S7	55Si8	56Si7	-
	P1.1.Z.AN	02.2	-	-	-	-	2090	9255	55S7	-	-	-
	P1.2.Z.AN	01.2	C35	1.0501	060A35	-	1550	1035	CC35	C35	F.113	-
	P1.2.Z.AN	01.2	C45	1.0503	080M46	-	1650	1045	CC45	C45	F.114	-
	P1.2.Z.AN	01.2	40Mn4	1.1157	150M36	15	-	1039	35M5	-	-	-
	P1.2.Z.AN	01.2	36MN5	1.1167	-	-	2120	1335	40M5	-	36Mn5	SMn438(H)
	P1.2.Z.AN	01.2	28Mn6	1.1170	150M28	14A	-	1330	20M5	C28Mn	-	SCMn1
	P1.2.Z.AN	01.2	C35G	1.1183	060A35	-	1572	1035	XC38TS	C36	-	S35C
	P1.2.Z.AN	01.2	C45E	1.1191	080M46	-	1672	1045	XC42	C45	C45K	S45C
	P1.2.Z.AN	01.2	C53G	1.1213	060A52	-	1674	1050	XC48TS	C53	-	S50C
	P1.2.Z.AN	01.3	C55	1.0535	070M55	-	1655	1055	-	C55	-	-
	P1.2.Z.AN	01.3	C55E	1.1203	070M55	-	-	1055	XC55	C50	C55K	S55C
	P1.2.Z.AN	02.1	S275J2G3	1.0144	4360 43C	-	1412	A573-81	E 28-3	-	-	SM 400A;B;C
	P1.2.Z.AN	02.1	S355J2G3+C2	1.0570	4360 50B	-	2132	-	E36-3	Fe52BFN/Fe52CFN	-	SM490A;B;C;YA;YB
	P1.2.Z.AN	02.1	S355J2G3	1.0841	150 M 19	-	2172	5120	20 MC 5	Fe52	F-431	-
	P1.3.Z.AN	01.3	C60E	1.0601	080A62	43D	-	1060	CC55	C60	-	-
	P1.3.Z.AN	01.3	C60E	1.1221	080A62	43D	1678	1060	XC60	C60	-	S58C
	P1.3.Z.AN	01.4	C101E	1.1274	060 A 96	-	1870	1095	XC 100	-	F-5117	-
	P1.3.Z.AN	01.4	C101u	1.1545	BW 1A	-	1880	W 1	Y105	C36KU	F-5118	SK 3
	P1.3.Z.AN	01.4	C105W1	-	BW2	-	2900	W210	Y120	C120KU	F.515	SUP4
	P1.3.Z.AN	02.1	S340 MGC	1.0961	-	-	-	9262	60SC7	60SiCr8	60SiCr8	-
	P1.4.Z.AN	01.1	11SMn30	1.0715	230M07	-	1912	1213	S250	CF9SMn28	11SMn28	SUM22
	P1.4.Z.AN	01.1	11SMnPb30	1.0718	-	-	1914	12L13	S250Pb	CF9SMnPb28	11SMnPb28	SUM22L
	P1.4.Z.AN	01.1	10SPb20	1.0722	-	-	-	-	10PbF2	CF10SPb20	10SPb20	-
	P1.4.Z.AN	01.1	11SMn37	1.0736	240M07	1B	-	1215	S 300	CF9SMn36	12SMn35	-
	P1.4.Z.AN	01.1	11SMnPb37	1.0737	-	-	1926	12L14	S300Pb	CF9SMnPb36	12SMnP35	-
	P1.4.Z.AN	01.2	35S20	1.0726	212M36	8M	1957	1140	35MF4	-	F210G	-
	P1.5.C.UT	01.1	GC16E	1.1142	030A04	1A	1325	1115	-	-	-	-
	Low-alloy steel											
	P2.1.Z.AN	02.1	16Mo3	1.5415	1501-240	-	2912	A204Gr.A	15D3	16Mo3KW	16Mo3	-
	P2.1.Z.AN	02.1	14Ni6	1.5622	-	-	-	A350LF5	16N6	14Ni6	15Ni6	-
	P2.1.Z.AN	02.1	21NiCrMo2	1.6523	805M20	362	2506	8620	20NCD2	20NiCrMo2	20NiCrMo2	SNCM220(H)
	P2.1.Z.AN	02.1	17CrNiMo6	1.6587	820A16	-	-	-	18NCD6	-	14NiCrMo13	-
	P2.1.Z.AN	02.1	15Cr3	1.7015	523M15	-	-	5015	12C3	-	-	SCr415(H)
	P2.1.Z.AN	02.1	55Cr3	1.7176	527A60	48	-	5155	55C3	-	-	SUP9(A)
	P2.1.Z.AN	02.1	15CrMo5	1.7262	-	-	2216	-	12CD4	-	12CrMo4	SCM415(H)
	P2.1.Z.AN	02.1	13CrMo4-5	1.7335	1501-620Gr27	-	-	A182 F11;F12	15CD3.5 15CD4.5	14CrMo4 5	14CrMo45	-
	P2.1.Z.AN	02.1	10CrMo9 10	1.7380	1501-622 Gr.31;45	-	2218	A182 F.22	12CD9, 10	12CrMo9, 10	TU.H	-
	P2.1.Z.AN	02.1	14MoV6 3	1.7715	1503-660-440	-	-	-	-	-	13MoCrV6	-
	P2.1.Z.AN	02.1	50CoMo4	1.7228	823M30	33	2512	-	-	653M31	-	-
	P2.1.Z.AN	02.2	14NiCr10	1.5732	-	-	-	3415	14NC11	16NiCr11	15NiCr11	SNC415(H)
	P2.1.Z.AN	02.2	14NiCr14	1.5752	655M13; A12	36A	-	3415;3310	12NC15	-	-	SNC815(H)
	P2.1.Z.AN	02.1/02.2	16MnCr5	1.7131	(527M20)	-	2511	5115	16MC5	16MnCr5	16MnCr5	-
	P2.1.Z.AN	02.1/02.2	34CrMo4	1.7220	708A37	19B	2234	4137;4135	35CD4	35CrMo4	34CrMo4	SCM432;SCCRM3
	P2.1.Z.AN	02.1/02.2	41CrMo4	1.7223	708M40	19A	2244	4140;4142	42CD4TS	41CrMo4	42CrMo4	SCM 440
	P2.1.Z.AN	02.1/02.2	42CrMo4	1.7225	708M40	19A	2244	4140	42CD4	42CrMo4	42CrMo4	SCM440(H)
	P2.1.Z.AN	03.11	14NiCrMo134	1.6657	832M13	36C	-	-	-	15NiCrMo13	14NiCrMo131	-
	P2.2.Z.AN	02.1	31CrMo12	1.8515	722 M 24	-	2240	-	30 CD 12	30CrMo12	F-1712	-
	P2.2.Z.AN	02.1	39CrMoV13 9	1.8523	897M39	40C	-	-	-	36CrMoV12	-	-
	P2.2.Z.AN	02.1	41CrS4	1.7039	524A14	-	2092	L1	-	105WCR 5	-	-
	P2.2.Z.AN	02.1	50NiCr13	1.2721	-	-	2550	L6	55NCV6	-	F-528	-
	P2.2.Z.AN	03.11	45WCrV7	1.2542	BS1	-	2710	S1	-	45WCrV8KU	45WCrSi8	-
	P2.2.Z.AN/P2.5.Z.HT	02.1/02.2	36CrNiMo4	1.6511	816M40	110	-	9840	40NCD3	38NiCrMo4(KB)	35NiCrMo4	-
	P2.2.Z.AN/P2.5.Z.HT	02.1/02.2	34CrNiMo6	1.6582	817M40	24	2541	4340	35NCD6	35NiCrMo6(KB)	-	-
	P2.2.Z.AN/P2.5.Z.HT	02.1/02.2	34Cr4	1.7033	530A32	18B	-	5132	32C4	34Cr4(KB)	35Cr4	SCr430(H)
	P2.2.Z.AN/P2.5.Z.HT	02.1/02.2	41Cr4	1.7035	530A40	18	-	5140	42C4	41Cr4	42Cr4	SCr440(H)
	P2.2.Z.AN/P2.5.Z.HT	02.1/02.2	32CrMo12	1.7361	722M24	40B	2240	-	30CD12	32CrMo12	F.124.A	-
	P2.2.Z.AN/P2.5.Z.HT	02.1/02.2	51CrV4	1.8159	735A50	47	2230	6150	50CV4	50CrV4	51CrV4	SUP10
	P2.2.Z.AN/P2.5.Z.HT	02.1/02.2	41CrAlMo7	1.8509	905M39	41B	2940	-	40CAD6, 12	41CrAlMo7	41CrAlMo7	-
	P2.3.Z.AN	02.1	100Cr6	1.3505	534A99	31	2258	52100	100C6	100Cr6	F.131	SUJ2

Material cross reference list

ISO	MC	CMC	Country Europe	Germany	Great Britain		Sweden	USA	France	Italy	Spain	Japan
			Standard									
			DIN EN	W.-nr.	BS	EN	SS	AISI/SAE/ASTM	AFNOR	UNI	UNE	JIS
P	P2.3.Z.AN/H1.2.Z.HA	02.1/02.2	105WCr6	1.2419	-	-	2140	-	105WC13	10WCr6	105WCr5	SKS31
	P2.3.Z.AN/H1.2.Z.HA	-	-	-	-	-	-	-	-	107WCr5KU	-	SKS2, SKS3
	P2.3.Z.AN/H1.2.Z.HA	02.1/02.2	-	1.2714	-	-	-	L6	55NCDV7	-	F.520.S	SKT4
	P2.3.Z.AN/H1.3.Z.HA	02.1/02.2	100Cr6	1.2067	BL3	-	-	L3	Y100C6	-	100Cr6	-
	P2.4.Z.AN	02.1	16MnCr5	1.7139	-	-	2127	-	-	-	-	-
	P2.5.Z.HT	02.1	16Mo5	1.5423	1503-245-420	-	-	4520	-	16Mo5	16Mo5	-
	P2.5.Z.HT	02.1	40NiCrMo8-4	1.6562	311-Type 7	-	-	8740	-	40NiCrMo2(KB)	40NiCrMo2	SNCM240
	P2.5.Z.HT	02.1	42Cr4	1.7045	-	-	2245	5140	-	-	42Cr4	SCr440
	P2.5.Z.HT	02.1	31NiCrMo14	1.5755	830 M 31	-	2534	-	-	-	F-1270	-
	P2.5.Z.HT	02.2	36NiCr6	1.5710	640A35	111A	-	3135	35NC6	-	-	SNC236
	P2.6.C.UT	02.1	22Mo4	1.5419	605A32	-	2108	8620	-	-	F520.S	-
	P2.6.C.UT	02.1/02.2	25CrMo4	1.7218	1717CDS110	-	2225	4130	25CD4	25CrMo4(KB)	AM26CrMo4	SCM420;SCM430
	P2.6.C.UT	06.2	-	-	-	-	2223	-	-	-	-	-
	High-alloy steel											
	P3.0.Z.AN	03.11	X210Cr12	1.2080	BD3	-	-	D3	Z200C12	X210Cr13KU X250Cr12KU	X210Cr12	SKD1
	P3.0.Z.AN	03.11	X43Cr13	1.2083	-	-	2314	-	-	-	-	-
	P3.0.Z.AN	03.11	X40CrMoV5 1	1.2344	BH13	-	2242	H13	Z40CDV5	X35CrMoV05KU X40CrMoV511KU	X40CrMoV5	SKD61
	P3.0.Z.AN	03.11	X100CrMoV5 1	1.2363	BA2	-	2260	A2	Z100CDV5	X100CrMoV51KU	X100CrMoV5	SKD12
	P3.0.Z.AN	03.11	X210CrW12	1.2436	-	-	2312	-	-	X215CrW12 1KU	X210CrW12	SKD2
	P3.0.Z.AN	03.11	X30WCrV9 3	1.2581	BH21	-	-	H21	Z30WCV9	X28W09KU X30WCrV9 3KU	X30WCrV9	SKD5
	P3.0.Z.AN	03.11	X165CrMoV 12	1.2601	-	-	2310	-	-	X165CrMoW12KU	X160CrMoV12	-
	P3.0.Z.AN	03.21	X155CrMoV12-1	1.2379	-	-	2736	HNV3	-	-	-	-
	P3.0.Z.HT	03.11	X8Ni9	1.5662	1501-509;510	-	-	ASTM A353	-	X10Ni9	XBNi09	-
	P3.0.Z.HT	03.11	12Ni19	1.5680	-	-	-	2515	Z18N5	-	-	-
	P3.1.Z.AN	03.11	S6-5-2	1.3343	4959BA2	-	2715	D3	Z40CSD10	15NiCrMo13	-	SUH3
	P3.1.Z.AN	03.13	-	-	BM 2	-	2722	M 2	Z85WDCV	HS 6-5-2-2	F-5603.	SKH 51
	P3.1.Z.AN	03.13	HS 6-5-2-5	1.3243	BM 35	-	2723	M 35	6-5-2-5	HS 6-5-2-5	F-5613	SKH 55
	P3.1.Z.AN	03.13	HS 2-9-2	1.3348	-	-	2782	M 7	-	HS 2-9-2	F-5607	-
	P3.2.C.AQ	06.33	G-X120Mn12	1.3401	Z120M12	-	2183	L3	Z120M12	XG120Mn12	X120Mn12	SCMnH/1
	Ferritic/martensitic stainless steel											
Steel	P5.0.Z.AN	05.11/15.11	X10CrAL13	1.4724	403S17	-	-	405	Z10C13	X10CrAl12	F.311	SUS405
	P5.0.Z.AN	05.11/15.11	X10CrAL18	1.4742	430S15	60	-	430	Z10CAS18	X8Cr17	F.3113	SUS430
	P5.0.Z.AN	05.11/15.11	X10CrAL2-4	1.4762	-	-	2322	446	Z10CAS24	X16Cr26	-	SUH446
	P5.0.Z.AN	05.11/15.11	X1CrMoTi18-2	1.4521	-	-	2326	S44400	-	-	-	-
	P5.0.Z.AN/P5.0.Z.HT	05.11/15.11	X6Cr13	1.4000	403S17	-	2301	403	Z6C13	X6Cr13	F.3110	SUS403
	P5.0.Z.AN/P5.0.Z.HT	-	X7Cr14	1.4001	-	-	-	-	-	-	F.8401	-
	P5.0.Z.AN/P5.0.Z.HT	05.11/15.11	X10Cr13	1.4006	410S21	56A	2302	410	Z10C14	X12Cr13	F.3401	SUS410
	P5.0.Z.AN/P5.0.Z.HT	05.11/15.11	X6Cr17	1.4016	430S15	960	2320	430	Z8C17	X8Cr17	F3113	SUS430
	P5.0.Z.AN/P5.0.Z.HT	05.11/15.11	X6CrAL13	1.4002	405S17	-	-	405	Z8CA12	X6CrAl13	-	-
	P5.0.Z.AN/P5.0.Z.HT	05.11/15.11	X20Cr13	1.4021	420S37	-	2303	420	Z20C13	X20Cr13	-	-
	P5.0.Z.AN/P5.0.Z.HT	05.11/15.11	X6CrMo17-1	1.4113	434S17	-	2325	434	Z8CD17.01	X8CrMo17	-	SUS434
	P5.0.Z.HT	03.11	X45CrS9-3-1	1.4718	401S45	52	-	HW3	Z45CS9	X45GrSi8	F322	SUH1
	P5.0.Z.HT	05.11/15.11	X85CrMoV18-2	1.4748	443S65	59	-	HNV6	Z80CSN20.02	X80CrSiNi20	F.320B	SUH4
	P5.0.Z.HT	05.11/15.11	X20CrMoV12-1	1.4922	-	-	2317	-	-	X20CrMoNi 12 01	-	-
	P5.0.Z.PH	05.11/15.11	X12CrS13	1.4005	416 S 21	-	2380	416	Z11CF13	X12 CrS 13	F-3411	SUS 416
	P5.0.Z.PH	05.11/15.11	X46Cr13	1.4034	420S45	56D	2304	-	Z40CM	X40Cr14	F.3405	SUS420J2
	P5.0.Z.PH	05.11/15.11	X19CrNi17-2	1.4057	431S29	57	2321	431	Z15CNi6.02	X16CrNi16	F.3427	SUS431
	P5.0.Z.PH	05.12/15.12	X5CrNiCuNb16-4	1.4542 1.4548	-	-	-	630	Z7CNU17-04	-	-	-
	P5.0.Z.PH	15.21	X4 CrNiMo16-5	1.4418	-	-	2387	-	Z6CND16-04-01	-	-	-
	P5.1.Z.AN/P5.0.Z.HT	05.11/15.11	X14CrMoS17	1.4104	-	-	2383	430F	Z10CF17	X10CrS17	F.3117	SUS430F

			Trade names
	P2.1.Z.AN	02.1	OVAKO 520M (Ovako Steel)
	P2.2.Z.AN	02.1	1.0045 FORMAX (Uddeholm Tooling)
	P2.2.Z.AN	02.1	IMACRO NIT (Imatra Steel)
	P2.5.Z.HT	02.2	INEXA 482 (XM) (Inexa Profil)
	P1.2.Z.AN		S355J2G3(XM)
	P1.2.Z.AN		C45(XM)
	P1.2.Z.AN		16MnCrS5(XM)
	P2.5.Z.HT		INEXA280(XM)
	P2.5.Z.HT	02.2	070M20(XM)
	P2.5.Z.HT	02.2	HARDOX 500 (SSAB – Swedish Steel Corp.)
	P2.5.Z.HT		WELDOX 700 (SSAB – Swedish Steel Corp.)

Material cross reference list

ISO	MC	CMC	Country Europe	Germany	Great Britain		Sweden	USA	France	Italy	Spain	Japan
			Standard DIN EN	W.-nr.	BS	EN	SS	AISI/SAE/ASTM	AFNOR	UNI	UNE	JIS
M	**Austenitic stainless steel**											
Stainless steel	M1.0.Z.AQ	05.11/15.11	X3CrNiMo13-4	1.4313	425C11	-	2385	CA6-NM	Z4CND13.4M Z38C13M	(G)X6CrNi304	-	SCS5
	M1.0.Z.AQ/M1.0.C.UT	05.11/15.11	X53CrMnNiN21-9	1.4871	349S54	-	-	EV8	Z52CMN21.09	X53CrMnNiN21 9	-	SUH35, SUH36
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X2CrNiN18-10	1.4311	304S62	-	2371	304LN	Z2CN18.10	-	-	SUS304LN
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X2CrNiMoN17-13-3	1.4429	-	-	2375	316LN	Z2CND17.13	-	-	SUS316LN
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X2CrNiMo17-12-2	1.4404	316S13	-	2348	316L	Z2CND17-12	X2CrNiMo1712	-	-
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X2CrNiMo18-14-3	1.4435	316S13	-	2353	316L	Z2CND17.12	X2CrNiMo17 12	-	SCS16, SUS316L
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X3CrNiMo17-3-3	1.4436	316S33	-	2343, 2347	316	Z6CND18-12-03	X8CrNiMo1713	-	-
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X2CrNiMo18-15-4	1.4438	317S12	-	2367	317L	Z2CND19.15	X2CrNiMo18 16	-	SUS317L
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X6CrNiNb18-10	1.4550	347S17	58F	2338	347	Z6CNNb18.10	X6CrNiNb18 11	F.3552 F.3524	SUS347
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X6CrNiMoTi17-12-2	1.4571	320S17	58J	2350	316Ti	Z6NDT17.12	X6CrNiMoTi17 12	F.3535	-
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X10CrNiMoNb 18-12	1.4583	-	-	-	318	Z6CNDNb17 13B	X6CrNiMoNb17 13	-	-
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X15CrNiSi20-12	1.4828	309S24	-	-	309	Z15CNS20.12	-	-	SUH309
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X2CrNiMoN17-11-2	1.4406	301S21	58C	2370	308	Z1NCDU25.20	-	F.8414	SCS17
	M1.0.Z.AQ	05.21/15.21	X1CrNiMoCuN20-18-7	1.4547	-	-	2378	S31254	Z1CNDU20-18-06AZ	-	-	-
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X9CrNi18-8	1.4310	-	-	2331	301	Z12CN17.07	X12CrNi17 07	F.3517	SUS301
	M1.0.Z.PH	05.22/15.22	X7CrNiAL17-7	1.4568 1.4504	316S111	-	-	17-7PH	Z8CNA17-07	X2CrNiMo1712	-	-
	M1.0.Z.AQ/M1.0.C.UT	05.21/15.21	X2CrNi19-11	1.4306	304S11 304S12	-	2352	304L	Z2CN18-10	X2CrNi18 11	-	-
	M1.1.Z.AQ	05.21/15.21	-	-	304S31	58E	2332, 2333	304	Z6CN18.09	X5CrNi18 10	F.3504 F.3541	SUS304
	M1.1.Z.AQ	05.21/15.21	X5CrNi18-10	1.4301	304S15	58E	2332	304	Z6CN18.09	X5CrNi18 10	F.3551	SUS304
	M1.1.Z.AQ	05.21/15.21	X5CrNiMo17-2-2	1.4401	316S16	58J	2347	316	Z6CND17.11	X5CrNiMo17 12	F.3543	SUS316
	M1.1.Z.AQ	05.21/15.21	X6CrNiTi18-10	1.4541	321S12	58B	2337	321	Z6CNT18.10	X6CrNiTi18 11	F.3553 F.3523	SUS321
	M1.2.Z.AQ	05.21/15.21	X8CrNiS18-9	1.4305	303S21	58M	2346	303	Z10CNF 18.09	X10CrNiS 18.09	F.3508	SUS303
	Super austenitic (Ni>20%) stainless steel											
	M2.0.C.AQ	20.11	G-X40NiCrSi36-18	1.4865	330C11	-	-	-	-	XG50NiCr39 19	-	SCH15
	M2.0.Z.AQ	05.21/15.21	X1NiCrMoCu25-20-5	1.4539	-	-	2562	UNS V 0890A	Z2 NCDU25-20	-	-	-
	M2.0.Z.AQ	05.21/15.21	X8CrNi25-21	1.4845	310S24	-	2361	310S	Z12CN25 20	X6CrNi25 20	F.331	SUH310
	M2.0.Z.AQ	20.11	X12NiCrSi36 16	1.4864	-	-	-	330	Z12NCS35.16	F-3313	-	SUH330
	M2.0.Z.AQ	05.23/15.23	X1NiCrMoCu31-27-4	1.4563	-	-	2584	NO8028	Z1NCDU31-27-03	-	-	-
	Duplex (austenitic/ferritic) stainless steel											
	M3.1.Z.AQ/M3.1.C.AQ	05.51/15.51	X2CrNiN23-4	1.4362	-	-	2376	S31500	-	-	-	-
	M3.1.Z.AQ/M3.1.C.AQ	05.51/15.51	X8CrNiMo27-5	-	-	-	2324	S32900	-	-	-	-
	M3.2.Z.AQ/M3.2.C.AQ	05.52/15.52	X2CrNiN23-4	-	-	-	2327	S32304	Z2CN23-04AZ	-	-	-
	M3.2.Z.AQ/M3.2.C.AQ	05.52/15.52	-	-	-	-	2328	-	-	-	-	-
	M3.2.Z.AQ/M3.2.C.AQ	05.52/15.52	X2CrNiMoN22-53	-	-	-	2377	S31803	Z2CND22-05-03	-	-	-

			Trade names	
	M1.1.Z.AQ	05.21/15.21		SANMAC 304 (Sandvik Steel)
	M1.1.Z.AQ	05.21/15.21	1.0045	SANMAC 304L (Sandvik Steel)
	M1.1.Z.AQ	05.21/15.21		SANMAC 316 (Sandvik Steel)
	M1.1.Z.AQ	05.21/15.21		SANMAC 316L (Sandvik Steel)
	M1.0.Z.AQ	05.23/15.23		254 SMO
	M2.0.Z.AQ	05.23/15.23		654 SMO
	M3.2.Z.AQ	05.52/15.52		SANMAC SAF 2205 (Sandvik Steel)
	M3.2.Z.AQ	05.52/15.52		SANMAC SAF 2507 (Sandvik Steel)

Material cross reference list

ISO	MC	CMC	Country Europe	Germany	Great Britain		Sweden	USA	France	Italy	Spain	Japan
			Standard DIN EN	W.-nr.	BS	EN	SS	AISI/SAE/ASTM	AFNOR	UNI	UNE	JIS
K	**Malleable cast iron**											
	K1.1.C.NS	07.1	-	-	8 290/6	-	0814	-	MN 32-8	-	-	FCMB310
	K1.1.C.NS	07.1	EN-GJMB350-10	0.8135	B 340/12	-	0815	32510	MN 35-10	-	-	FCMW330
	K1.1.C.NS	07.2	EN-GJMB450-6	0.8145	P 440/7	-	0852	40010	Mn 450	GMN 45	-	FCMW370
	K1.1.C.NS	07.2	EN-GJMB550-4	0.8155	P 510/4	-	0854	50005	MP 50-5	GMN 55	-	FCMP490
					P 570/3		0858	70003	MP 60-3			FCMP540
	K1.1.C.NS	07.2	EN-GJMB650-2	0.8165	P570/3	-	0856	A220-70003	Mn 650-3	GMN 65	-	FCMP590
	K1.1.C.NS	07.3	EN-GJMB700-2	0.8170	P690/2	-	0862	A220-80002	Mn700-2	GMN 70	-	FCMP690
	Gray cast iron											
	K2.1.C.UT	08.1	-	-	-	-	0100	-	-	-	-	-
	K2.1.C.UT	08.1	EN-GJL-100	0.6010	-	-	0110	No 20 B	Ft 10 D	-	-	FC100
	K2.1.C.UT	08.1	EN-GJL-150	0.6015	Grade 150	-	0115	No 25 B	Ft 15 D	G 15	FG 15	FC150
	K2.1.C.UT	08.1	EN-GJL-200	0.6020	Grade 220	-	0120	No 30 B	Ft 20 D	G 20	-	FC200
	K2.1.C.UT	08.2	EN-GJL-250	0.6025	Grade 260	-	0125	No 35 B	Ft 25 D	G 25	FG 25	FC250
	K2.1.C.UT	08.2	EN-JLZ	0.6040	Grade 400	-	0140	No 55 B	Ft 40 D	-	-	-
	K2.2.C.UT	08.2	EN-GJL-300	0.6030	Grade 300	-	0130	No 45 B	Ft 30 D	G 30	FG 30	FC300
	K2.2.C.UT	08.2	EN-GJL-350	0.6035	Grade 350	-	0135	No 50 B	Ft 35 D	G 35	FG 35	FC350
	K2.3.C.UT	08.3	GGL-NiCr20-2	0.6660	L-NiCuCr202	-	0523	A436 Type 2	L-NC 202	-	-	-
	Nodular cast iron											
	K3.1.C.UT	09.1	EN-GJS-400-15	0.7040	SNG 420/12	-	0717-02	60-40-18	FCS 400-12	GS 370-17	FGE 38-17	FCD400
	K3.1.C.UT	09.1	EN-GJS-400-18-LT	0.7043	SNG 370/17	-	0717-12	-	FGS 370-17	-	-	-
	K3.1.C.UT	09.1	EN-GJS-350-22-LT	0.7033	-	-	0717-15	-	-	-	-	-
	K3.1.C.UT	09.1	EN-GJS-800-7	0.7050	SNG 500/7	-	0727	80-55-06	FGS 500-7	GS 500	FGE 50-7	FCD500
	K3.2.C.UT	09.2	EN-GJS-600-3	0.7060	SNG 600/3	-	0732-03	-	FGS 600-3	-	-	FCD600
	K3.3.C.UT	09.2	EN-GJS-700-2	0.7070	SNG 700/2	-	0737-01	100-70-03	FGS 700-2	GS 700-2	FGS 70-2	FCD700
	K3.5.C.UT	-	EN-GJSA-XNiCr20-2	0.7660	Grade S6	-	0776	A43D2	S-NC 202	-	-	-
	Compacted graphite iron											
	K4.1.C.UT	-	EN-GJV-300									
	K4.1.C.UT	-	EN-GJV-350									
	K4.2.C.UT	-	EN-GJV-400									
	K4.2.C.UT	-	EN-GJV-450									
	K4.2.C.UT	-	EN-GJV-500									
	Austempered ductile iron											
	K5.1.C.NS	-	EN-GJS-800-8	-	-	-	-	ASTM A897 No. 1	-	-	-	-
	K5.1.C.NS	-	EN-GJS-1000-5	-	-	-	-	ASTM A897 No. 2	-	-	-	-
	K5.2.C.NS	-	EN-GJS-1200-2	-	-		-	ASTM A897 No. 3	-	-	-	-
	K5.2.C.NS	-	EN-GJS-1400-1	-	-	-	-	ASTM A897 No. 4	-	-	-	-
	K5.3.C.NS	-	-	-	-	-	-	ASTM A897 No. 5	-	-	-	-

Cast iron

Material cross reference list

ISO	MC	CMC	Country Europe	Germany	Great Britain		Sweden	USA	France	Italy	Spain	Japan
			Standard									
			DIN EN	W.-nr.	BS	EN	SS	AISI/SAE/ASTM	AFNOR	UNI	UNE	JIS
N	**Aluminum based alloys**											
Non-ferrous metals	N1.3.C.AG	30.21	G-AlSi9MGWA	3.2373	-	-	4251	SC64D	A-S7G	-	-	C4BS
	N1.3.C.UT	30.21	G-ALMG5	-	LM5	-	4252	GD-AlSi12	A-SU12	-	-	AC4A
	N1.3.C.UT/N1.3.C.AG	30.21/30.22	-	-	LM25	-	4244	356.1	-	-	-	A5052
	N1.3.C.UT	-	GD-AlSi12	-	-	-	4247	A413.0	-	-	-	A6061
	N1.3.C.AG	-	GD-AlSi8Cu3	-	LM24	-	4250	A380.1	-	-	-	A7075
	N1.3.C.UT	-	G-AlSi12(Cu)	-	LM20	-	4260	A413.1	-	-	-	ADC12
	N1.3.C.UT	-	G-AlSi12	-	LM6	-	4261	A413.2	-	-	-	-
	N1.3.C.AG	-	G-AlSi10Mg(Cu)	-	LM9	-	4253	A360.2	-	-	-	-
S	**Nickel based alloys**											
Heat resistant super alloys	S2.0.Z.AG	20.22	S-NiCr13A16MoNb	LW2 4670	mar-46	-	-	5391	NC12AD	-	-	-
	S2.0.C.UT	20.24	NiCo15Cr10MoAlTi	LW2 4674	-	-	-	AMS 5397	-	-	-	-
	S2.0.Z.AG	20.22	NiFe35Cr14MoTi	LW2.4662	-	-	-	5660	ZSNCDT42	-	-	-
	S2.0.Z.AG	20.22	NiCr19Fe19NbMo	LW2.4668	HR8	-	-	5383	NC19eNB	-	-	-
	S2.0.Z.AG	20.22	NiCr20TiAk	2.4631	Hr401.601	-	-	-	NC20TA	-	-	-
	S2.0.Z.AG	20.22	NiCr19Co11MoTi	2.4973	-	-	-	AMS 5399	NC19KDT	-	-	-
	S2.0.Z.AG	20.22	NiCr19Fe19NbMo	LW2.4668	-	-	-	AMS 5544	NC20K14	-	-	-
	S2.0.Z.AN	20.21	-	2.4603	-	-	-	5390A	NC22FeD	-	-	-
	S2.0.Z.AN	20.21	NiCr22Mo9Nb	2.4856	-	-	-	5666	NC22FeDNB	-	-	-
	S2.0.Z.AN	20.21	NiCr20Ti	2.4630	HR5.203-4	-	-	-	NC20T	-	-	-
	S2.0.Z.AG	20.22	NiCu30AL3Ti	2.4375	3072-76	-	-	4676	-	-	-	-
	Cobalt base											
	-	-	CoCr20W15Ni	-	-	-	-	5537C, AMS	KC20WN	-	-	-
	S3.0.Z.AG	20.32	CoCr22W14Ni	LW2.4964	-	-	-	5772	KC22WN	-	-	-
	Titanium alloys											
	S4.2.Z.AN	23.22	TiAl5Sn2.5	3.7115.1	TA14/17	-	-	UNS R54520	T-A5E UNS R56400	-	-	-
	S4.2.Z.AN	23.22	TiAl6V4	3.7165.1	TA10-13/TA28	-	-	UNS R56401	T-A6V	-	-	-
	S4.3.Z.AN	23.22	TiAl5V5Mo5Cr3	-	-	-	-	-	-	-	-	-
	S4.2.Z.AN	23.22	TiAl4Mo4Sn4Si0.5	3.7185	-	-	-	-	-	-	-	-
			Trade names									
			Iron-based alloys									
	S2.0.Z.UT/S2.0.Z.AN	20.11	Incoloy 800									
			Nickel based alloys									
	S2.0.Z.AN	20.2	Haynes 600									
	S2.0.Z.AN	20.2	Nimocast PD16									
	S2.0.Z.AG	20.2	Nimonic PE 13									
	S2.0.Z.AG	20.2	Rene 95									
	S2.0.Z.AN	20.21	Hastelloy C									
	S2.0.Z.AN	20.21	Incoloy 825									
	S2.0.Z.AN	20.21	Inconel 600									
	S2.0.Z.AN	20.21	Monet 400									
	S2.0.Z.AG	20.22	Inconel 700									
	S2.0.Z.AG	S2.0.Z.AG	Inconel 718									
	S2.0.Z.AG	20.22	Mar – M 432									
	S2.0.Z.AG	20.22	Nimonic 901									
	S2.0.Z.AG	20.22	Waspaloy									
	S2.0.C.NS	20.24	Jessop G 64									
			Cobalt base									
	S3.0.Z.AG	20.3	Air Resist 213									
	S3.0.Z.AG	20.3	Jetalloy 209									
H	**Hardened materials**											
Hardened materials	H1.2.Z.HA	04.1	X100CrMo13	1.4108	-	-	2258 08	440A	-	-	-	C4BS
	H1.3.Z.HA	04.1	X110CrMoV15	1.4111	-	-	2534 05	610	-	-	-	AC4A
	H1.2.Z.HA	04.1	X65CrMo14	-	-	-	2541 06	0-2	-	-	-	AC4A

General code key for CoroMill cutters

R	A	390	–	063	Q	22	L	–	11	M	050
1	2	3		4	5	6	7		8	9	10

1 Style

R = Right-hand rotating

2 Performance

A = Inch

3 Main code

E.g.: 390 = CoroMill® 390

4 Cutting diameter

E.g.: 063 = 63 mm

5 Type of coupling

A = Cylindrical, mm
B = Weldon mm
C = Coromant Capto
D = Cylindrical inch
J = CIS Tenon drive
M = Weldon, inch
N = Whistle Notch inch
Q = Arbor mounting mm
O = Cylindrical inch
R = Arbor mounting inch
T = Threaded coupling
W = Whistle Notch mm
HA= HSK form A

6 Coupling size

22 = 22 mm

7 Extra long

L = Extra long

8 Insert size

11 = 11 mm (LE)

9 Pitch

L = Coarse pitch
M = Close pitch
H = Extra close pitch

10 Length, LF

E.g.: 050 = 50 mm

General code key for CoroMill inserts

R	390	–	11	T3	12	M	–	P	L	W
1	2		3	4	5	6		7	8	9

1 Hand of insert

R = Right hand
L = Left hand

2 Main code

E.g.: 390= CoroMill® 390

3 Insert width

E.g.: 11=11 mm (.669 inch)

4 Insert thickness, S

E.g.: T3 S = 3.97

04 S = 4.76

06 S = 6.33

5 Corner radius

E.g.: 12 = 1.2 mm

6 Edge performance

M = Highest edge security
E = Highest sharpness and precision
H = High edge sharpness and high precision
K = High cutting sharpness

7 Main ISO application area

P M K N S H

8 Operation

L = Light cutting
M = Medium
H = Heavy
T = Turn milling

9 Wiper

W = Wiper

Code key for CoroMill® 327

CoroMill 327 insert

Grooving and chamfering

327	R	12	–	22	130	45	08	–	GC
1	2	3		4	5	9	12		7

Threading

327	R	06	–	12	100	VM	–	TH
1	2	3		4	10	11		7

Profiling

327	R	06	–	12	220	11	–	RM
1	2	3		4	5	6		7

Grooving

327	R	12	–	28	150	01	–	GM	M
1	2	3		4	5	6		7	8

1 Product name
2 Right-hand insert
3 Coupling size (interface)
4 D_{min} (mm)
5 Insert width
6 Radius ex 02 = radius 0.2 mm (.008 inch)
7 Type of insert
- GM = Grooving
- RM = Fullnose radius
- CH = Chamfering
- GC = Grooving and chamfering
- TH = Threading

8 M = Close pitch
9 Chamfer 45°
10 Thread pitch
- mm: pitch x 100
- inch: No. of threads per inch

11 Type of thread
- VM = V-Profile 60°
- MM = Metric 60°
- WH = Whitworth 55°

12 Max cutting depth, CDX in mm

CoroMill® 327 holders

327	–	12	B	15	S	C	–	06
1		2	3	4	5	6		7

1 Product name
2 Shank diameter DMM
3 Shank type
- B = Weldon

4 Reach length
5 Shank materials
- S = steel
- E = solid carbide

6 Internal coolant
7 Coupling size (interface)

Code key for CoroMill® 328

CoroMill® 328 insert

Chamfering

328	R	13	–	110	45	–	GC
1	2	3		4	7		6

Threading

328	R	13	–	150	VM	–	TH
1	2	3		8	9		6

Grooving

328	R	13	–	110	01	–	GM
1	2	3		4	5		6

1 Product name
2 Right-hand insert
3 Insert size
4 Insert width
5 Radius ex 02 = radius 0.2 mm (.008 inch)
6 Geometry
GM = Grooving
GC = Grooving and chamfering
TH = Threading
7 Chamfer 45°
8 Thread pitch mm: pitch x 100
9 Type of thread VM = V-Profile 60°

CoroMill® 328 cutters

328	–	039	B	25	–	13	M
1		2	3	4		5	6

1 Product name
2 Cutting diameter, DC
3 Shank type B = Weldon
Q = Arbor
S = Bore with keyway
4 Shank/couplings diameter (DCON)
5 Insert size
6 Pitch

Code key for CoroMill® 325

Inserts

325	R	16	–	150	HA	F	01
1	2	3		4	5	6	7

1	Product family
2	R = Right hand L = Left hand
3	Insert size, mm
4	Pitch, mm
5	Thread type HA = HA profile HB = HB profile
6	Edge performance F = Sharp cutting edge
7	Number of teeth

Cutters

325	–	12	AP	40	–	16	M
1		2	3	4		5	6

1	Product family	
2	Diameter DC mm	
3	Machine type / Spindle maker	
	A = Citizen	E = WTO
	B = Star	P = PCM
	C = Tsugami	Q = Jarvis
	D = Tornos	
4	Mounting size, mm	
5	Insert sizes, mm	
6	Close pitch	

Code key for CoroMill® 170

Cutter

S	–	170	–	12	–	350	Q	080	N	032	C
		1		2		3	4	5	6	7	8

1 Product family

2 Module

3 Diameter DC, mm

4 Mounting

Q = Arbor metric
R = Arbor inch
J = Arbor CIS

5 Mounting size

e.g. 080 = 80 mm

6 N = Neutral style

7 Number of inserts

8 Diameter of radial keyway

A = 120 mm (4.724 inch)
B = 130 mm (5.118 inch)
C = 140 mm (5.512 inch)
D = 170 mm (6.693 inch)
E = 190 mm (7.480 inch)

Insert

170	–	12	–	24	07	40	E	–	P	R	H	N
1		2		3	4	5	6		7	8	9	10

1 Product family

2 Module

3 Insert size

20 = 20 mm (.787 inch)
24 = 24 mm (.945 inch)
28 = 28 mm (1.102 inch)

4 Insert thickness

07 = 7 mm (.276 inch)
08 = 8 mm (.315 inch)
10 = 10 mm (.394 inch)

5 Radius

e.g. 40 = 4.0 mm

6 Edge performance

E = Highest sharpness and precision

7 Main ISO applications area

P = Steel

8 Type of insert

F = Flank insert
R = Root insert

9 Operation

L = Light
M = Medium
H = Heavy

10 Geometry

N = Neutral

Code key for CoroMill® 176

Cutter

S	–	176	R	–	M	40	–	150	S	50	1	05
		1	2		3	4		5	6	7	8	9

1 Product family

2 Hand of tool

R = Right hand, L = Left hand

3 Profile type

M = Module, D = Diametral pitch

4 Profile size

40 = 4.0 mm (.157 inch)

5 Diameter, D_c mm

6 Mounting type

S = Bore with keyway
C = Coromant Capto®

7 Mounting size

50 = 50 mm (1.969 inch)

8 Number of starts

9 Number of complete windings

05 = 5 windings

Insert

176	M	50	–	N	12	06	10	E	–	P	M
1	2	3		4	5	6	7	8		9	10

1 Product family

2 Profile type

M = Module, D = Diametral pitch

3 Profile size

50 = 5.0 mm (.197 inch)

4 Geometry

N = Neutral, i.e. for both right and left hand tools.

5 Insert width

12 = 12 mm (.472 inch)

6 Insert thickness

06 = 6 mm (.236 inch)

7 Corner radius

10 = 1.0 mm (.039 inch)

8 Edge performance

E = Highest sharpness and precision

9 Main ISO applications area

P = Steel

10 Operation

L = Light
M = Medium
H = Heavy

Code key for CoroMill® Plura

2	S	3	4	0	-	1200	-	200	-	M	A	1640
1	2	3	4	5		6		7	8	9	10	11

1 Series

1: Versatile
2: Optimized

2 Face geometry

S: Straight corner radius, center cut

F: Straight corner radius, no center cut

P: Straight, center cut

N: Straight, no center cut

B: Ball nose

C: Chamfer tools

H: High-feed cutter

U: Chamfer radius

T: Turn mill

3 Flute helix angle

0: 0°<FHA≤15°
1: 15°<FHA≤25°
2: 25°<FHA≤35°
3: 35°<FHA≤45°
4: 45°<FHA≤55°
5: 55°<FHA≤65°

4 Average cutting length of tool style (APMX/DC)

0: 0-0.5 x DC
1: 0.6-1.0 x DC
2: 1.1-1.5 x DC
3: 1.6-2.0 x DC
4: 2.1-2.5 x DC
5: 2.6-3.0 x DC
6: 3.1-3.5 x DC
7: 3.6-4.0 x DC
8: 4.1-5.0 x DC
9: > 5.0 x DC

5 Running number to differentiate between tool style codes

6 Cutting diameter (DC) in 1/100.

E.g. 1200 = 12.00 mm

7 Corner radius, chamfer or chamfer radius in 1/100.

E.g. Corner radius 200 = 2 mm.
E.g. Chamfer 045 = 45°

8 Coolant

- No coolant
C: Radial exit coolant
A: Axial exit coolant

9 Primary ISO material

P: ISO P
K: ISO K
M: ISO M
S: ISO S
H: ISO H
N: ISO N
X: Multi

10 Shank

A: Cylindrical
B: Weldon
C: Cylindrical with neck
D: Weldon with neck
Y: iLock
F: iLock with neck
G: Undersized

11 Grade

Code key for CoroMill® Plura

R	A	21	5	.	3	A	-	100	30	–	A	C	22	H
1	2	3	4		5	6	7	8	9	10	11	12	13	14

1 Direction of rotation

R Right hand
L Left hand

2 System of measurement

A Inch version

3 Type of tool

21 End mill

4 Drilling function

5 Non-drilling
6 Drilling

6 Number of teeth

1-9 1 to 9 teeth
A-Z 10 to 32 teeth

7 **Coolant**

C = Internal coolant supply
- = External coolant supply

8 Cutting diameter

Inch tools.
Cutting diameter DC in 1/64 inch.

Example: 10 = 5/32 inch

Metric tools.
Cutting diameter DC in 1/10 mm.

Example: 100 = 10.0 mm

9 Helix angle

Degree of helix rounded to nearest 5 degrees

12 Length of shank

S Short shank length
C Long shank length
K Shank length > "C"
L Shank length > "K"
X Shank length > "L"
E Short LF and LU
I Medium LF, medium LU
J Medium LF, long LU
O Long LF, medium LU
P Long LF, long LU

13 Max cutting depth, APMX

Inch tools.
Cutting length in 1/16 inch
If DC < 1/8 in 1/64 inch
Example: 09 = 9/16 inch for DC 3/16 inch

Metric tools.
Cutting length in mm
If D_c or D_{c2} < 3mm in 1/10 mm
Example:07 = 7 mm for DC 6 mm70 = 7 mm for DC 2.5 mm

5 Basic design of end mill

0	Concave chamfer end mill	**6**	Full radius (ball nose) with spherical form
1	Square form with/without corner chamfer, tight tolerance at DC	**7**	Conical straight form
2	Square form with corner radius	**8**	45° chamfer end mill
3	Square form with/without corner chamfer	**9**	30° chamfer end mill
4	Full radius (ball nose) form (6 or less teeth)	**H**	High feed end mill
5	Conical full radius (ball nose) form (6 or less teeth)	**T**	Turn-mill end mill

10 Corner radius/Conical angle

Corner radius				**Conical angle**	
Metric tools.		Inch tools.		Metric tools.	
– No radius		– No radius		– No radius/Angle	
A	<0.5 mm	A	1/64 inch	M	0.5°
B	0.5 mm	B	1/32 inch	N	1°
C	1.0 mm	C	3/64 inch	O	1.5°
D	1.5 mm	D	1/16 inch	P	2°
E	2.0 mm	E	5/64 inch	Q	2.5°
F	2.5 mm	F	3/32 inch	R	3°
etc.		etc.		S	3.5°
				T	4°
				etc.	

11 Shank type

A Cylindrical

B Weldon

C Cylindrical with neck

E-J Cylindrical with neck (Neck length/DC, mm)

E = 0.1 - 1.9 H = 6.0 - 7.9

F = 2.0 - 3.9 I = 8.0 - 9.9

G = 4.0 - 5.9 J = 10 - 11.9

Y = Cylindrical with iLock

14 Geometry type

	Cutting edge	**TW % of DC**	**Rake angle γ°**
K	Kordell	50-60	9°-12°
B	Chip breaker	60	4°-7°
U	Kordell	<50	9°-12°
A	Straight	<45	12°-15°
P	Straight	45-55	9°-12°
N	Straight	56-65	9°-12°
L	Straight	66-75	4°-12°
G	Straight	50-75	-3°-3°
H	Straight	>75	<-3°
C	Compression router		

TW = Core diameter

Code key for exchangeable milling heads

A	316	–	12	S	M	4	50	C	120	05	P
1	2		3	4	5	6	7	8	9	10	11

1 System of measurement
A = Inch version

2 Family name
E.g.: 316 = CoroMill® 316

3 Size of interface
EH coupling size E.g.: 12 = E12

4 Basic design
S = Straight = 90° F = Straight no center cutting B = Ball nose C = Chamfer tools H = HFC (high-feed cutter) U = Chamfer radius

5 Length of head
M = Medium

6 Number of edges
E.g.: ZEFP = 4

7 Helix angle
Degree of helix rounded to nearest 5 degrees

8 Coolant
- No coolant C Radial exit coolant A Axial exit coolant

9 Cutting diameter
Metric tools. E.g.: 120 = 12.0 mm Inch tools. E.g.: 050 = 0.5 inch

10 Corner radius
Metric tools. E.g.: 05 = RE 0.5 mm Inch tools. E.g.: 04 = RE 0.4 mm (.015")

11 Geometry

Geometry	Rake angle	Core diameter	
P	9-12°	50%	
L	4-12°	70%	
G	-3-3°	70%	
K	9-12°	60%	Kordell
A	12-15°		

Code key for CoroMill® Plura thread milling endmills

R	21	7	.	1	5	C	100	300	A	K	30	N
1	2	3		4	5	6	7	8	9	10	11	12

1 Direction of rotation

R Right hand

2 Type of tool

21 End mill

3 Function

7 Thread milling

4 Type of thread

1= Metric/Metric Fine internal thread

2= Metric/Metric Fine external thread

3= UNC/UNF internal thread

4= UNC/UNF external thread

5= NPT internal thread

6= NPT external thread

7= NPTF internal thread

8= NPTF external thread

9= G internal thread

0= G external thread

5 Number of teeth

1-9 1 to 9 teeth

6 Cutting fluid supply

C Internal coolant

- No coolant through

7 Diameter of tool

Cutting diameter in 1/10 mm

8 Pitch

Pitch in 1/10 mm

9 Shank type

A Cylindrical shank

B Weldon shank

C Cylindrical shank with chamfer

10 Length of shank

S Short shank length
C Long shank length
K Shank length > "C"
L Shank length > "K"
X Shank length > "L"

11 Max cutting depth, APMX

Cutting length in mm (If DC or DCX < 3 mm in 1/10 mm)

12 Geometry type

N 10° helix, 9-12° rake angle, internal thread

H 30° helix, < 0° rake angle, internal thread

P 15° helix 9-10° rake angle

S 15° helix 4–5° rake angle

Code key for complete boring tools

821D	–	125	T	C	16	–	C8
1		2	3	4	5		6

1 Product family

820	=	CoroBore 820/820 XL
820L	=	CoroBore 820L XL
821	=	DuoBore 821
821D	=	DuoBore 821 dampened
825	=	CoroBore 825/825 XL
825D	=	CoroBore 825/825 XL dampened
825L	=	CoroBore 825L/825L XL
825 EH	=	CoroBore 825 EH
826	=	CoroBore 826 XL
826D	=	CoroBore 826 XL Dampened
826L	=	CoroBore 826L XL
825 SL	=	CoroBore 825 SL face grooving

2 Boring diameter

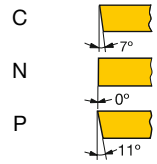
Ø Max = 125 mm

3 Insert shape

C	Rhombic
S	Square
T	Triangular
R	Round

4 Insert type

Clearance angle

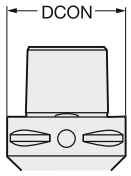


5 Insert size

Insert size = 12 mm

6 Coupling size

Coromant Capto® size

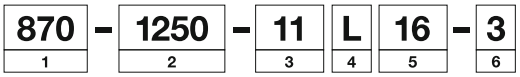


Coromant Capto®

Coupling size	DCON mm (inch)
C3	32 (1.260)
C4	40 (1.575)
C5	50 (1.969)
C6	63 (2.480)
C8	80 (3.150)
C10	100 (3.937)

Code key for CoroDrill® 870

Drill body



1 Product family

2 Minimum drill tip diameter (mm) - DCN

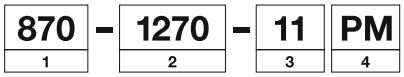
3 Tip interface size

4 Shank type
L = ISO 9766, LX = ISO 9766 inch

5 Shank diameter DMM

6 Max hole depth (x D_c)

Drill tip



1 Product family

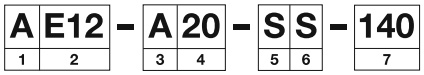
2 Drill tip diameter (mm) - DC

3 Tip interface size

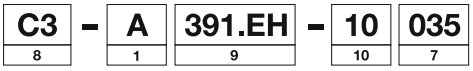
4 Geometry
MM = ISO M, Medium machining
PM = ISO P, Medium machining
KM = ISO K, Medium machining
GP = General materials, Pilot geometry

Code key for toolholders

Cylindrical holder



Coromant Capto® holder



Solid holder

1 System of measurement	**2** Size of interface	**3** Holder type
A = Inch version	E12= EH coupling size	A = Cylindrical

4 Holder diameter	**5** Type of holder	**6** Holder material	7 Length of holder
E.g.: DCON = 20 mm	S = Straight C = Conical	S = Steel E = Solid carbide	E.g.: 140 = 140 mm

8 Coupling size	**9** Family/ holder type	**10** Size of interface	11 Taper size
C = Coromant Capto	391.EH = Coromant Capto® EH holder 392.140EH = ISO 7388.1 392.55EH = MAS-BT 403 A392.45EH = CAT V 392.410EH = HSK holder Form A/C A392.R8EH = Bridgeport holder 392.EREH = ER integrated holder	10 = EH coupling size	11 = Taper size for Coromant solid holders

Code key for solid holding tools

A	A	1	B	05	–	50	32	060
1	2	3	4	5		6	7	8

1 Inch version

2 Coolant through center

3 Spindle type

1=ISO 7388/1 (DIN 69871)
2= MAS-BT
3=CAT V-Flange

4 Options

B= Coolant through flange
F= Flange mounting
X= Extra short

5 Holder type

05 = Face mill holder
14= ER Collet chuck
20=Endmill holder Weldon type
27= Short hole drill holder-shank ISO 9766

6 Taper size 30, 40, 50

7 Size bore or pilot, $DCON_{WS}$

mm (inch)

09 (0.375)	19 (0.750)	38 (1.500)
13 (0.500)	25 (1.000)	51 (2.000)
16 (0.625)	32 (1.250)	63 (2.500)

8 Programming length, mm

060 = 60 mm

Code key for CoroChuck™ 930

930	–	HA	10	–	S	–	20	–	068
1		2	3		4		5		6

1	Product family
	930 hydraulic chuck

2	Machine design
C	Coromant Capto®
HA	HSK A
HE	HSK E
I	ISO
IB	ISO BIG-PLUS®
V	CAT-V
VB	CAT-V BIG-PLUS®
B	MAS-BT
BB	MAS-BT BIG-PLUS®

3	Coupling size
	Coromant Capto® : C3, C4, C5, C6, C8, C10 HSK: HA04, HA05, HA06, HA08 HA10,HA12 Taper: BB30, BB40, BB50,I30, I40, I50, V40, V50

4	930 version
HD	Heavy Duty version
S	Slender version
P	Pencil version

5	Bore size diameter
20	= 20 mm

6	Programing length
068	= 68 mm

Code key for CoroChuck™ 970

970	–	HA	10	–	20	–	115
1		2	3		4		5

1	Product family
	970 tapping chuck

2	Machine design
C	Coromant Capto®
CY	Cylindrical
HA	HSK A
I	ISO
V	CAT V
B	MAS-BT
WE	Weldon

3	Coupling size
	Coromant Capto® : C3, C4, C5, C6, C8, C10 HSK: HA04, HA05, HA06, HA08 HA10,HA12 Taper: BB30, BB40, BB50,I30, I40, I50, V40, V50

4	Bore size diameter
20	= 20 mm

5	Programming length
115	= 115 mm

Code key for taps

T200	–	S	D	100	D	A	–	M3
1		2	3	4	5	6		7

1 Product family

2 ISO material

P = Steel
M = Stainless steel
K = Cast iron
S = Heat resistant super alloys

H = Hardened material

N = Non ferrous material

X = Crossmaterial

3 Level of material

E = Easy
M = Medium
D = Difficult

4 Number

1 0 0

Different nr for:
reinforced or straight shank
different chamfer, tool, coolant etc.

5 Std

D = DIN
A = ANSI & DIN/ANSI
J = JIS
I = ISO

6 Thread form

A = M
B = MF
C = MJ
D = UN
E = UNC
F = UNF
G = UNEF
H = UNJC
I = UNJF
J = UNS
K = G
L = NPT
M = NPTF
N = NPSF
O = NPSM
P = EGM
Q = EGMF
R = EGUNC
S = EGUNF
T = PG
U = R
V = Rc
X = Rp
Y = BA

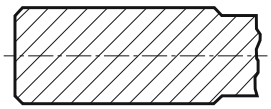
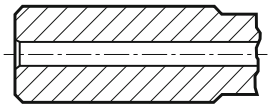
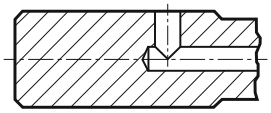
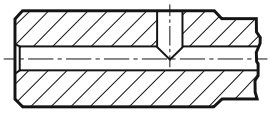
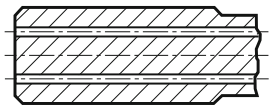
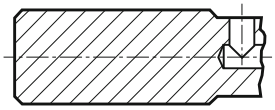
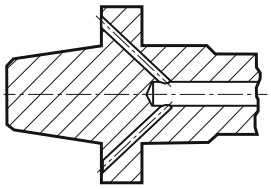
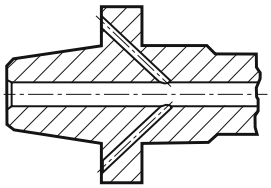
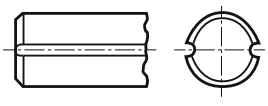
7 Dimension

Pitch only when needed, like in MF.

M3
M10x125 (No decimal given in pitch size)

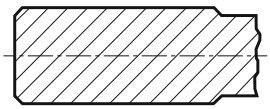
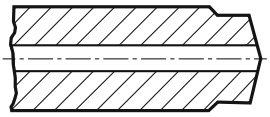
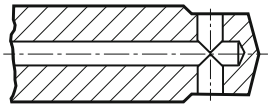
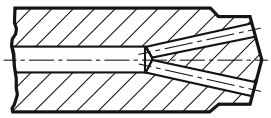
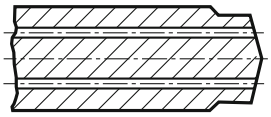
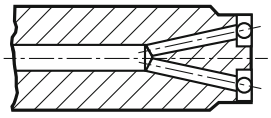
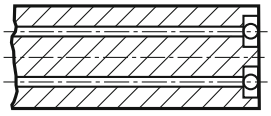
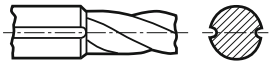
CNSC

Coolant entry style code

Code	Description	Image
0	Without coolant	
1	Axial concentric entry	
2	Radial entry	
3	Axial concentric and radial entry	
4	Axial concentric entry on circle	
5	Radial entry before adapter	
6	Decentral over flange	
7	Decentral over flange and axial	
8	Decentral over slots on the shank	

CXSC

Coolant exit style code

Code	Description	Image
0	No coolant exit	
1	Axial concentric exit	
2	Radial exit	
3	Axial inclined exit	
4	Axial concentric on circle	
5	Axial inclined exit with nozzle, adjustable	
6	Decentral exit with nozzle, adjustable	
7	Decentral over slots on the shank	
8	Axial or decentral with nozzle, adjustable