

# Grades for parting and grooving

	ISO	ANSI		
<b>P</b> Steel	01	C8		▲
	10	C7	GC 3115	
	20		GC 4225	
	30	C6	GC 4025	
	40		GC 1025	
	50	C5	GC 4125	▼
<b>M</b> Stainless steel	10	-	GC 1105	▲
	20	-	GC 4125	
	30	-	GC 1025	
	40	-	GC 2135	▼
				GC 2145
<b>N</b> Non-ferrous metals	01	C4		▲
	10	C3	H10	
	20	C2	H13A	
	30		C1	GC 1025
<b>S</b> Heat resistant and super alloys	10	-	GC 1105	▲
	20	-	GC 1005	
	30	-	H13A	
	40	-	GC 1025	▼
				GC 2135
			GC 2145	▼

The position and form of the grade symbols indicate the suitable field of application.


Centre of the field of application.


Recommended field of application.



▲ Wear resistance

▼ Toughness

 = Basic grades

 = Complementary grades

## Grades for parting and grooving

**P** Steel, cast steel, long chipping malleable iron.

### Basic grades

**GC3115 (HC)** – P15 (P05-P25)

A very high wear resistant CVD-coated grade. Especially recommended for grooving and turning at stable conditions due to its excellent hot hardness, while also effective in hard steels. To be used at high cutting speeds under good conditions.

**GC4225 (HC)** – P20 (P10-P35)

An all-round CVD-coated grade with excellent combination of high wear resistance and good edge security, first choice for grooving and turning operations under stable conditions. Medium to high cutting speeds.

**GC4025 (HC)** – P20 (P10-P35)

An all-round CVD-coated grade with excellent combination of high wear resistance and good edge security, first choice for grooving and turning operations under stable conditions. Medium to high cutting speeds.

**GC1025 (HC)** – P25 (P15–P45)

An excellent all-round grade for parting-off, grooving and turning operations. This PVD-coated grade works very well in low carbon steel and other smearing materials. Speeds and feeds from medium to low.

**GC4125 (HC)** – P30 (P15-P45)

An excellent all-round grade. First choice for parting-off tubes in steel, also very good in grooving and turning operations. This PVD-coated grade works very well in low carbon steel and other smearing materials. Speeds and feeds from medium to low.

**GC2135 (HC)** – P35 (P20-P50)

A CVD-coated carbide grade for toughness demanding operations such as cut-off to centre and interrupted cuts. Back up alternative when grooving and turning. Very good bulk and edge line toughness. To be used at low to medium cutting speeds.

### Complementary grades

**GC235 (HC)** – P45 (P25-P50)

Parting and grooving of steel in operations requiring toughness. Suitable for low speeds and under unfavourable conditions.

**GC2145 (HC)** – P45 (P30-P55)

An extremely tough PVD-coated carbide grade for steel applications with very high demands on toughness. The combination of a substrate with very good bulk toughness and a wear resistant coating makes it a first choice in toughness demanding applications.

**M**

Austenitic/ferritic/martensitic stainless steel, cast steel, manganese steel, alloy cast iron, malleable iron, free cutting steel.

### Basic grades

**GC1105 (HC)**-M15 (M05-M20)

The substrate consists of a hard fine-grained WC with 6% Co for high hot hardness and good resistance against plastic deformation. The new thin PVD TiAlN-coating with excellent adhesion, also on sharp edges, guarantees toughness, even flank wear and high performance. Suitable for finishing of stainless steels at high speeds.

**GC4125 (HC)** – M25 (M15-M35)

An excellent all-round PVD-coated grade with a combination of high wear resistance and good edge security for stainless steels. First choice for grooving and turning operations, also good for parting-off especially tubes. Medium to low cutting speeds.

**GC1025 (HC)** - M25 (M15-M35)

An excellent all-round PVD-coated grade with a combination of high wear resistance and good edge security for stainless steels. Recommended for grooving and turning operations, also good for parting-off especially tubes. Medium to low cutting speeds.

**GC2135 (HC)** – M30 (M20-M40)

First choice CVD-coated carbide grade for parting-off in stainless steel and other toughness demanding operations. Very good bulk and edge line toughness. To be used at medium to low cutting speeds.

**GC2145 (HC)** – M40 (M30-M45)

The solution for stainless steel applications with very high demands on toughness. Extremely good bulk toughness combined with a PVD coating that works very well in smearing materials. To be used at low cutting speeds.

### Complementary grades

**GC1005 (HC)** – M10 (M05-M20)

PVD-coated carbide. The combination of a hard fine grain substrate with good plastic deformation resistance and a coating with high wear resistance at high temperatures, makes this grade suitable for finishing of stainless steels at high speeds.

**H13A (HW)** – M15 (M10-M30)

Combines good abrasive wear resistance and toughness for grooving of heat resistant steels and titanium alloys.

**GC235 (HC)** – M35 (M25-M40)

Parting and grooving of stainless steels where toughness is required. Use at low speeds and under unfavourable conditions.

## Grades for parting and grooving

**N**

### Non ferrous metals

#### Basic grades

##### **H10 (HW)** – N10 (N05-N15)

Uncoated carbide grade with good edge sharpness. Recommended for machining of Aluminium and for intermittent cuts.

##### **H13A (HW)** – N20 (N10-N30)

Uncoated carbide grade. Combines good abrasive wear resistance and toughness for parting and grooving of Aluminium alloys.

##### **GC1025 (HC)** - N25 (N15-N20)

A PVD-coated grade for toughness demanding operations, recommended for interrupted cuts.

**S**

### Heat resistant and super alloys

#### Basic grades

##### **GC1105 (HC)** - S15 (S10-S20)

The substrate consists of a hard fine-grained WC with 6% Co for high hot hardness and good resistance against plastic deformation. The new thin PVD TiAlN-coating with excellent adhesion, also on sharp edges, guarantees toughness, even flank wear and outstanding performance in heat resistant super alloys.

##### **GC1005 (HC)** – S15 (S10-S20)

PVD-coated carbide. The combination of a hard fine grain substrate with good plastic deformation resistance and a coating with high wear resistance at high temperatures, makes this grade most suitable for Ni, Fe or Co-based heat resistant super alloys.

##### **H13A (HW)** – S15 (S10-S30)

Uncoated carbide grade. Combines good abrasive wear resistance and toughness for parting and grooving. First choice in titanium.

##### **GC1025 (HC)** - S25 (S15-S35)

A PVD-coated grade for toughness demanding operations, recommended for interrupted cuts. To be used at low cutting speeds.

##### **GC4125 (HC)** – S25 (S15-S35)

A PVD-coated grade for toughness demanding operations, first choice for interrupted cuts. To be used at low cutting speeds.

#### Complementary grades

##### **GC2135 (HC)** – S30 (S20 – S40)

A CVD-coated grade for toughness demanding operations such as cut-off to centre and interrupted cuts in heat resistant super alloys.

##### **GC2145 (HC)** – S40 (S30-S40)

A tough PVD-coated grade. First choice in parting off in heat resistant super alloys.

#### Letter symbols specifying the designation of hard cutting materials:

##### Hardmetals:

HW Uncoated hardmetal containing primarily tungsten carbide (WC)

HC Hardmetals as above, but coated