

Main material group P

This group includes long-chipping ferrous metals except stainless and austenitic steels and is, according to the cutting load, divided into the application groups 01-50.

Main material group M

Group M includes austenitic stainless steels, austenitic/ferritic steels and cast steels. The group is subdivided into the application groups 01-40, dependent on the cutting load. At Guhring, P and M applications are achieved with coated K carbide.

Main material group K

Group K incorporates all forms of grey cast iron and malleable cast iron. Dependent on cutting load it is subdivided into the application groups 01-40.

Main material group S

Heat-resistant "super alloys" based on iron, nickel or cobalt as well as titanium alloys are included in group S. It is divided into the application groups 01-30, dependent on the cutting load.

Main material group N

This group includes non-ferrous metals, especially aluminium-alloys and non-metal materials. It is, depending on the cutting load, divided into the application groups 01-30.

Main material group H

This group includes hard machining of hardened steels. The application groups are from 01-30, depending on the cutting load.

Many carbide grades cover the broad spectrum of the main material groups, especially when coated tools are applied. For example, most of the FIRE-coated carbide drills in the Guhring range are assigned to the main material groups K and P.

Individual Guhring grades

The following table lists the most important carbides that are available from Guhring ex-stock for general applications. Further carbide grades are available on request and detailed information can be found at www.guehring-carbide.de

In more than 80% of applications known to Guhring, the results of DK460UF carbide grade tools together with a specially adapted coating could not be surpassed by any other carbide grades, including coated tools. This and the availability of the material ex-stock simplify tool selection immensely. For further information regarding the application of other carbide grades please contact our technical engineers.

Guhring description	Co-content [M-%]	Tungsten carbide grain size [µm]	Hardness [HV]	ISO classification [ISO 513]	Characteristics
DK460UF	10	0.5	1620	K20-K40 coated: P, M20-M40, H, S, N25	A carbide grade with wide range of application possibilities. It is applied, mostly coated, for the machining of steel, soft Al alloys, cast iron as well as "super alloys" such as Inconel 718. This grade is the backbone of our carbide production.
DK500UF	12	0.5	1680	K25 coated: P, M, H, S, N25	The grade has been especially developed for hard machining. It possesses a higher hardness and deformation tolerance in comparison to DK460UF. Due to the high Co-content, a coated application is strongly recommended.
DK255F	8	0.7	1720	K20 coated: P, M, H, S, N20	The grade is recommended for hard machining, the machining of high tensile grey cast iron and hard AISI-alloys. Dry machining is possible. A coated application is preferable.
DK120	6	1.3	1620	K15 coated: N15	The grade is especially suitable for the application with diamond coating.
DK120UF	7	0.5	1850	K05	Ultra fine grain type offering extreme wear resistance, suitable for absolutely rigid machines, preferred for reamers.
K55SF	9	0.2 -0.5	1920	K10-K30	For application with high wear resistant materials, stainless steels, composite materials such as Kevlar and GRP, high speed machining and dry machining.
DK400N	10	0.7	1580	K35M coated: P, M, S, N35M	An extremely tough grade for the machining of high heat resistant metals.