

Ratio drill type RT 100 R

New materials require new tooling solutions. As an innovative tool manufacturer, Guhring has always followed this concept and is reacting to the increasing application of CGI (cast iron with compacted graphite iron) and ADI (austempered ductile iron) in the automotive industry with the new Ratio drill type RT 100 R.

High tensile strength is exceptionally demanding

CGI and ADI offer high tensile strengths, i.e. making it possible to increase the output of an engine whilst keeping the wall thickness of the engine block the same or to reduce the weight through thinner

wall thicknesses whilst keeping the output of the engine the same. Subsequently, the automotive industry is demanding tools from tool manufacturers that can economically machine these new materials. Conventional drills have so far not achieved satisfactory results.

Guhring has therefore developed the new Ratio drill type RT 100 R. Thanks to its patented radius point geometry it offers highest performance and economic efficiency for the machining of the new materials. With its unique balance of face contour and flute profile it provides rigidity, dimensional accuracy and process reliability.

Powerful in common cast materials

The new radius point geometry offers more than machining of CGI and ADI. It is also recommended for the machining of common cast materials such as grey cast iron, spheroidal graphite and malleable cast iron.

New:**Standard range 5 x D and 7 x D**

Now the wear resistant solid carbide drill is available as a standard item in the ExclusiveLine range. The two standard drills are 5 x D and 7 x D with internal cooling and are suitable for a wide range of applications. However, they offer ex-stock availability and reasonable prices.

Furthermore the RT 100 R is available as a special tool with or without internal cooling to fit your specific application. Guhring can, for example, provide application orientated coatings or even modify the design of a step drill. For the special tool request form please see page 7.

Our recommendation:

The RT 100 R drills are especially suited for machining under minimal quantity lubrication conditions. With MQL we recommend a tool design with conical shank end and the application of Guhring's MQL screw and components. Please contact our technical service department for more information.

**Selected machining results with RT 100 R drills**

Diameter	16	17
Coating	FIRE	Super A
Material	GGG50	GGG40
Drilling depth (mm)	20	50
Cooling	IK	IK
Lubricant	neat oil	soluble oil
v_c [m/min]	120	160
f [mm/rev.]	0,5	0,6
Tool life [m]	615	305