

Amborite

DBW85

Element Six announces the availability of DBW85, a new grade of Amborite polycrystalline cubic boron nitride (PCBN).

This product extends the Amborite range to include a grade with a unique combination of toughness, wear resistance and edge quality. Amborite DBW85 is available with immediate effect as a 57 mm diameter disc or as high quality EDM cut segments.

STRUCTURE & PROPERTIES

Amborite DBW85 contains carefully selected micron sized particles of cubic boron nitride (cBN) in a high content PCBN composition. Combining these with an appropriate binder phase and a specifically developed high pressure sintering process produces a structure of extreme toughness, wear resistance and edge quality (fig.1-4).

cBN content	85%
cBN grain size	2 μm
Binder type	Co - W - Al
Format	Tungsten carbide backed

Advantages

- A straightforward and versatile product to fabricate.
- Can be EDM cut without difficulty on practically all machine types.
- *Edge Grinding*: The consistent and tough structure of DBW85 enables repeatable and stable peripheral edge grinding and chamfering processes.

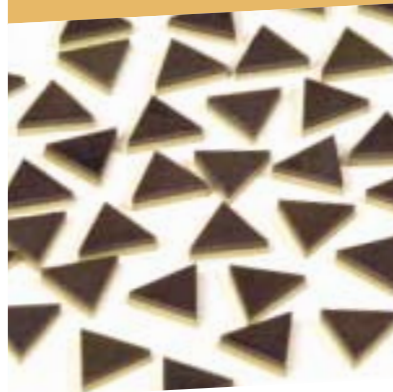


fig. 1 DBW85 T51-60 08 cut segments



fig. 2 Chamfered tool nose radius (x50)

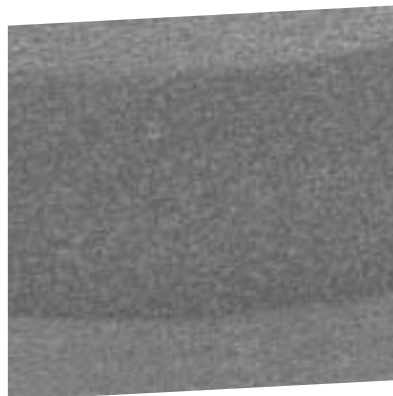


fig. 3 Chamfer (x250)

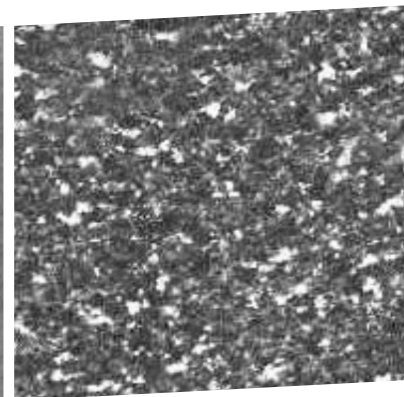


fig. 4 DBW85 microstructure (x1000)

APPLICATIONS

DBW85 should be used for the roughing, semi-finishing and finishing of hardened steels and irons, and the machining of all types of grey cast iron. The table shows details of the workpiece materials that are suitable for machining with Amborite DBW85 (fig.5).

AVAILABILITY










Amborite DBW85 is available as detailed below. Other high cBN materials in the Amborite product range are AMB90 and DBA80. Cut pieces are available in a wide range of standard and non-standard sizes.

MATERIAL	COMMENT
Hardened steels and irons	Hardness > 45 HRC
Cast Irons	Pearlitic irons Nodular cast irons
Powdered metal and sintered irons	
Heat resistant alloys	Particularly nickel based alloys
Sintered tungsten carbide	Co content > 17%

fig.5 Suggested materials for machining with DBW85

Amborite DBW85						
Product Nomenclature	Type	Shape	Dimensions (mm) diameter x thickness	Angle (°)	Layer Thickness	Grade
 DBW R571-36008	DBW	R	57 x 1.6	360	0.8	002
 DBW R572-36008	DBW	R	57 x 2.38	360	0.8	002
 DBW R573-36008	DBW	R	57 x 3.2	360	0.8	002
 DBW R574-36008	DBW	R	57 x 4.76	360	0.8	002

DBW85 is available in a wide range of standard and non-standard cut pieces. Samples of these are detailed below.

 T123-60	←	 T71-90	→	 T31-90
 L13133	←	 L871	→	 L431
 R133-360	←	 R93-360	→	 R63-360