

**GK-HFBZ**  
**NO BURRS**



**Giken Ltd.**  
The Japanese products

*The world's first! 4 blades*

# **ZERO BURR fiber**

For CFRTP/ GFRTP/ UD material / Resin

**The world's first! Four blades 3D Waveform composite R cutter shape.**

## **ZERO BURR fiber debut!**

**One punch without a pilot hole prevents burrs!**

**Perfect for drilling a hole in CFRTP, GFRTP, UD material and resin!**

**Hole accuracy H6 reamer finish if there's no deflection!**

**Trademark registered, patent pending.**

Drilling videos here!



**New Product!****4 Blades!****NO BURRS****Hybrid Drill**For **CFRTP/GFRTP Resin Unidirectional material****No Deburring!**

Reducing deburring work enables cost reduction and high-efficiency production.

**Repolishing!**

Cost efficient because it can be repolished. (Repolishing is done by our company)

**Patent and designs**

Expand into overseas markets(EU/USA/China) "ZERO BURR" Trademark registered.

**ZERO BURR fiber****The superior characteristics of ZEROBURR Fiber ( The results of drilling test )****Fiber Blade****XXZ thinning**

New development. Composite R shape that enables to bite smoothly and precise positioning with composite R.

**Fine Curve Flute**

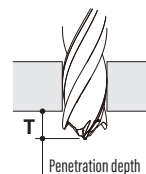
Achieved excellent cutting and chip discharging with large waveform R shape.

**Special Wave Drill**Cutting Resistance 1/4.  
Hole Accuracy H6 or less.  
3D waveform composite R shape to slightly reduce burrs.**Spiral Reamer**

Reamer shape for beautifully finished inner wall of hole.

**Fiber Blade**

Newly developed blade that cuts the fibers without any stress.

**- PRECAUTIONS -****\* Please use for wet drilling.****\* Be sure to fix the work material firmly, and use the drill to completely pass through the penetration depth.****\* If the deflection is large when the drill is mounted, welding or the hole diameter may become large, or a spiral flaw may remain on a drilling surface of the work material.****- Cutting speed -**

$$S = 1000 \times V \div 3.14 \div D$$

$$V = S \div (1000 \div 3.14 \div D)$$

$$F = f \times S$$

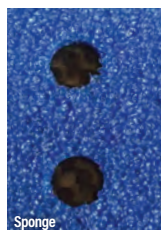
$$f = F \div S(3\text{blade} \times 1.5, 4\text{blade} \times 2)$$

$$S = \text{Revolution (rpm)}$$

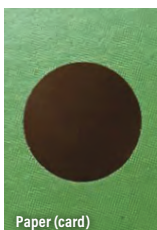
$$V = \text{Cutting speed (m/min)}$$

$$F = \text{Feed speed (mm/min)}$$

$$f = \text{Feed rate (mm/rev)}$$

**H6 minus tolerance***\*Recommended cutting conditions may vary depending on the cutting environment such as the type of work materials and thickness.*

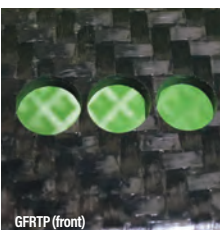
Sponge



Paper (card)



GFRTP (back)



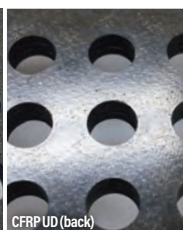
GFRTP (front)



CFRTP



CFRTP UD (front)



CFRTP UD (back)

S=930 F=30 V=17.5 f=0.032 S=1280 F=32 V=24 f=0.025 S=2430 F=100 V=47 f=0.041

S=3350 F=200 V=64 f=0.06

S=2430 F=100 V=47 f=0.041

**ZEROBURR fiber LINEUP (for CFRTP / GFRTP / Unidirectional material / Cross hole)**

Model number	φD Diameter	T Penetration Depth	ℓ Groove Length	L Overall Length	φd Shank
GK-HFBZ0300	3.0	1.5	18	60	3.0
GK-HFBZ0310	3.1	1.75	24	70	4.0
GK-HFBZ0320	3.2				
GK-HFBZ0330	3.3				
GK-HFBZ0340	3.4				
GK-HFBZ0350	3.5				
GK-HFBZ0360	3.6	2.0	30	75	6.0
GK-HFBZ0370	3.7				
GK-HFBZ0380	3.8				
GK-HFBZ0390	3.9				
GK-HFBZ0400	4.0				
GK-HFBZ0410	4.1	2.25	36	80	8.0
GK-HFBZ0420	4.2				
GK-HFBZ0430	4.3				
GK-HFBZ0440	4.4				
GK-HFBZ0450	4.5				
GK-HFBZ0460	4.6	2.5	42	90	12.0
GK-HFBZ0470	4.7				
GK-HFBZ0480	4.8				
GK-HFBZ0490	4.9				
GK-HFBZ0500	5.0				
GK-HFBZ0510	5.1	2.75	48	95	16.0
GK-HFBZ0520	5.2				
GK-HFBZ0530	5.3				
GK-HFBZ0540	5.4				
GK-HFBZ0550	5.5				
GK-HFBZ0560	5.6	3.0	54	100	20.0
GK-HFBZ0570	5.7				
GK-HFBZ0580	5.8				
GK-HFBZ0590	5.9				
GK-HFBZ0600	6.0				
GK-HFBZ0610	6.1	3.25	60	105	24.0
GK-HFBZ0620	6.2				
GK-HFBZ0630	6.3				
GK-HFBZ0640	6.4				
GK-HFBZ0650	6.5				
GK-HFBZ0660	6.6	3.5	66	110	28.0
GK-HFBZ0670	6.7				
GK-HFBZ0680	6.8				
GK-HFBZ0690	6.9				
GK-HFBZ0700	7.0				
GK-HFBZ0710	7.1	3.75	72	120	32.0
GK-HFBZ0720	7.2				
GK-HFBZ0730	7.3				

Model number	φD Diameter	T Penetration Depth	ℓ Groove Length	L Overall Length	φd Shank
GK-HFBZ0740	7.4	3.75	48	95	8.0
GK-HFBZ0750	7.5				
GK-HFBZ0760	7.6				
GK-HFBZ0770	7.7				
GK-HFBZ0780	7.8				
GK-HFBZ0790	7.9	4.0	54	100	10.0
GK-HFBZ0800	8.0				
GK-HFBZ0810	8.1				
GK-HFBZ0820	8.2				
GK-HFBZ0830	8.3				
GK-HFBZ0840	8.4	4.25	60	105	12.0
GK-HFBZ0850	8.5				
GK-HFBZ0860	8.6				
GK-HFBZ0870	8.7				
GK-HFBZ0880	8.8				
GK-HFBZ0890	8.9	4.5	66	110	14.0
GK-HFBZ0900	9.0				
GK-HFBZ0910	9.1				
GK-HFBZ0920	9.2				
GK-HFBZ0930	9.3				
GK-HFBZ0940	9.4	4.75	72	120	16.0
GK-HFBZ0950	9.5				
GK-HFBZ0960	9.6				
GK-HFBZ0970	9.7				
GK-HFBZ0980	9.8				
GK-HFBZ0990	9.9	5.0	78	126	18.0
GK-HFBZ1000	10.0				
GK-HFBZ1010	10.1				
GK-HFBZ1020	10.2				
GK-HFBZ1030	10.3				
GK-HFBZ1040	10.4	5.25	84	132	20.0
GK-HFBZ1050	10.5				
GK-HFBZ1060	10.6				
GK-HFBZ1070	10.7				
GK-HFBZ1080	10.8				
GK-HFBZ1090	10.9	5.5	90	138	22.0
GK-HFBZ1100	11.0				
GK-HFBZ1110	11.1				
GK-HFBZ1120	11.2				
GK-HFBZ1130	11.3				
GK-HFBZ1140	11.4	5.75	96	144	24.0
GK-HFBZ1150	11.5				
GK-HFBZ1160	11.6				
GK-HFBZ1170	11.7				

Model number	φD Diameter	T Penetration Depth	ℓ Groove Length	L Overall Length	φd Shank
GK-HFBZ1180	11.8	6.0	72	120	12.0
GK-HFBZ1190	11.9				
GK-HFBZ1200	12.0				
GK-HFBZ1210	12.1				
GK-HFBZ1220	12.2				
GK-HFBZ1230	12.3	6.25	78	125	14.0
GK-HFBZ1240	12.4				
GK-HFBZ1250	12.5				
GK-HFBZ1260	12.6				
GK-HFBZ1270	12.7				
GK-HFBZ1280	12.8	6.5	84	130	16.0
GK-HFBZ1290	12.9				
GK-HFBZ1300	13.0				
GK-HFBZ1310	13.1				
GK-HFBZ1320	13.2				
GK-HFBZ1330	13.3	6.75	90	140	18.0
GK-HFBZ1340	13.4				
GK-HFBZ1350	13.5				
GK-HFBZ1360	13.6				
GK-HFBZ1370	13.7				
GK-HFBZ1380	13.8	7.0	96	145	20.0
GK-HFBZ1390	13.9				
GK-HFBZ1400	14.0				
GK-HFBZ1410	14.1				
GK-HFBZ1420	14.2				
GK-HFBZ1430	14.3	7.25	102	150	22.0
GK-HFBZ1440	14.4				
GK-HFBZ1450	14.5				
GK-HFBZ1460	14.6				
GK-HFBZ1470	14.7				
GK-HFBZ1480	14.8	7.5	108	156	24.0
GK-HFBZ1490	14.9				
GK-HFBZ1500	15.0				
GK-HFBZ1510	15.1				
GK-HFBZ1520	15.2				
GK-HFBZ1530	15.3	7.75	114	162	26.0
GK-HFBZ1540	15.4				
GK-HFBZ1550	15.5				
GK-HFBZ1560	15.6				
GK-HFBZ1570	15.7				
GK-HFBZ1580	15.8	8.0	120	168	28.0
GK-HFBZ1590	15.9				
GK-HFBZ1600	16.0				

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