

# NPN

New Product News



## Diamond Coated Grades



## KEY POINT



**TaeguTec expands the DIA-RUSH family range with new diamond coated grades.**

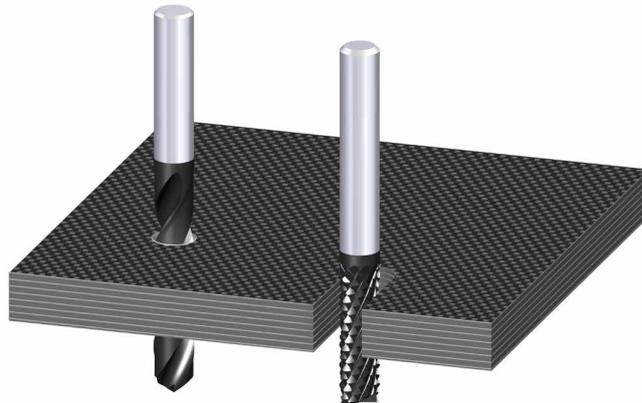
In recent years, the popularity of composites materials has increased due to the growing demand for strong and lightweight materials in industries as diverse as aerospace, automotive, power generation, mold and die, medical, and electronics. As an example, fiber-reinforced plastics such as CFRP and GFRP are widely used in the aerospace industry.

Characterized by high hardness, they need to be machined with exceptionally hard, smooth and particularly high adhesion diamond coated grades. These diamond coated grades are also optimized for the machining of graphite for mold and die products, industrial ceramics and medical products.

In response to these market demands, TaeguTec is providing optimal solutions for composite materials and non-ferrous metals with DIA-RUSH diamond coating products that are manufactured in the latest production facilities.



Graphite



Carbon fiber reinforced plastic (CFRP)



Zirconium dioxide

## TaeguTec's diamond coated grades



	TTD 610	TTD620 <b>new</b>	TTD630 <b>new</b>
Main workpiece materials	Composite materials (CFRP, GFRP), Printed Circuit Boards (glass fibers, metals and polymers)	Graphite	Technical ceramic, zirconium dioxide

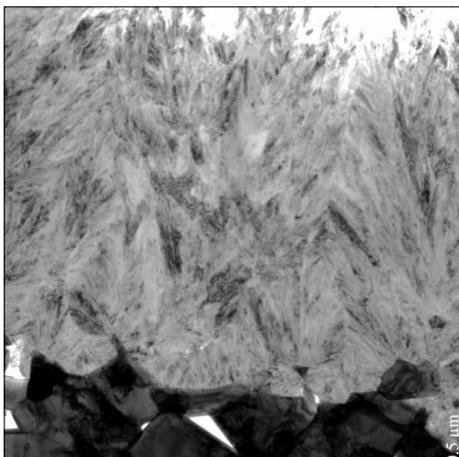
## "TTD610" diamond coated grade

### Features

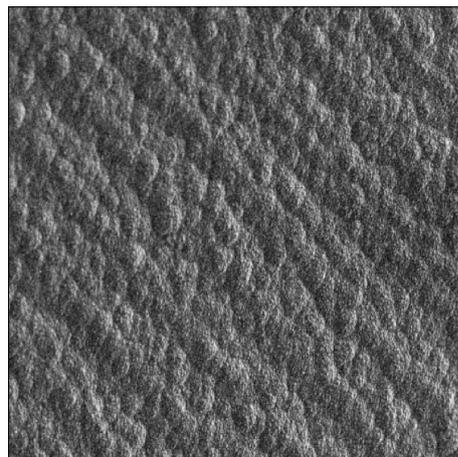
- Advanced nano diamond coating for longer tool life and improved machining reliability
- Excellent wear resistance (hardness over HV 8,000)
- High thermal stability, impact resistance and machining stability

Drills: Ultra-fine diamond coating ideal for applications requiring tight tolerances

End mills: Fine diamond coating for excellent wear resistance and cutting performance



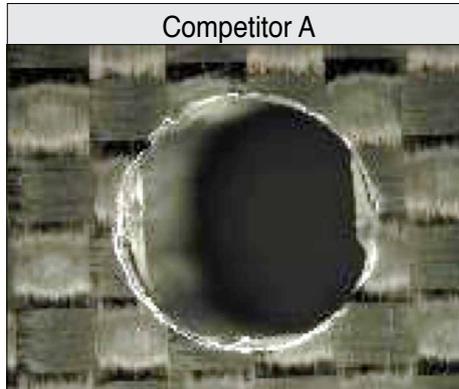
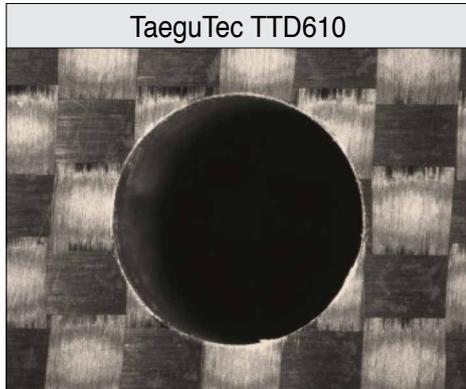
Nano diamond coated cross section



Nano diamond coated surface

The coating layer consists of numerous nano diamond structures with extremely strong adhesion to the substrate layer.

CFRP workpiece exit area after 500 holes machining with the CDF 080-040-08 TTD610



CDF 080-040-08

TaeguTec's TTD610 nano diamond coated drill significantly reduces delamination and achieves high hole accuracy in CFRP machining.

## TTD610 Application range

Materials: composite materials (CFRP, GFRP)



Airplane frame



Car chassis



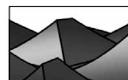
Wind turbine blade

## Tools for machining composite materials (CFRP, GFRP)

Solid carbide end mills



**RCME**



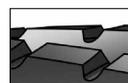
Multi-flutes router design for medium to finishing applications

**RCDE**



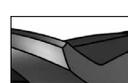
Drilling and slotting end mill for medium to finishing applications

**RRFE**



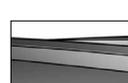
Chip splitter routers ideal for roughing applications

**RCOM**



Left and right hand helix type for finishing applications

**RDCF**



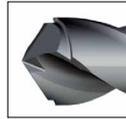
Higher productivity low helix angle for finishing applications (6z, 8z)



Solid carbide drills



**CDF**



Cutting edge delamination eliminated when machining through holes

Milling inserts (stock soon to be released)

**APCT**



AXCT 060204R-L  
APCT 120404R-L

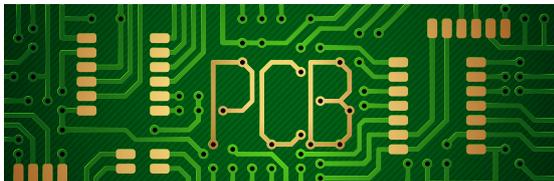
**3PHT**



3PHT 150404R-L

## Application range

Materials: Printed Circuit Boards (glass fibers, metals and polymers)



Printed Circuit Board (PCB)

## Tools for machining Printed Circuit Boards (glass fibers, metals and polymers)

Solid carbide end mills (production upon request)

**AES**



Cutting edge shape optimized for machining polymers

Solid carbide drills (production upon request)

**NHD**



Achieve higher productivity when machining through holes

## "TTD620" diamond coated grade **new**



### Features

- Optimized diamond coating for excellent thermal stability during high-speed machining of graphite materials
- Excellent wear resistant coating

### Application range

Material: graphite



Electrodes



Industrial parts

### Tools for machining graphite

- TT6050 diamond coated grade will be phased out and replaced by the TTD620 grade

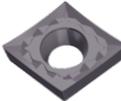
Solid carbide end mills

<b>DMB</b>		2 flute miniature ball
<b>DEB</b>		2 flute short ball
<b>DMR</b>		2 flute medium corner radius
<b>DER</b>		3 flute corner radius

Milling insert (stock soon to be released)

<b>APCT</b>		AXCT 060204R-L APCT 120404R-L	<b>3PHT</b>		3PHT 150404R-L
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Turning insert (stock soon to be released)

<b>CCGT</b>		CCGT 120404-FL CCGT 120408-FL
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## "TTD630" diamond coated grade **new**



### Features

- Optimized diamond coating for wear resistant, precision machining of ceramic powder molded products and sintered products
- Tougher grade with ideal wear resistance and excellent thermal shock resistance
- Strong coating adhesion

### Application range

Materials: technical ceramic, zirconium dioxide



Industrial parts



Dental crown

### Tools for machining technical ceramic and zirconium dioxide

Solid carbide end mill (production upon request)

**HSB**



2 flute short ball

**HSF**



2 & 4 flute flat

Solid drills (production upon request)

**NHD**



Excellent tool life when machining through holes