

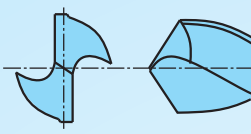
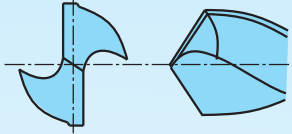
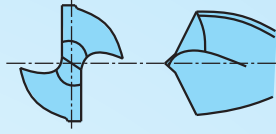
鑽尖種類及應用

drilltip and application

ドリルポイントの種類とアプリケーション

◆ 具代表性的頂端切削刃形狀




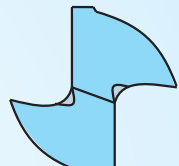
Representative top cutting-edge form

形狀 Profile	 (圓錐切削刃) Taper cutting edge	 (平面二重切削刃) Plane dual cutting edge	 (蠟燭型切削刃) Candle cutting edge
特徵 Features	<ul style="list-style-type: none"> ● 後刀面呈圓錐面，越是向鑽頭中心，後角越大。 Major flank is taper surface, if it is closer to the Core bit, the back rake angle will be larger ● 為普通形狀，軟材料及高硬度材料均可加工。 Normal profile, soft material and high hard materials can process 	<ul style="list-style-type: none"> ● 為用平面磨削後刀面的鑽頭，磨削方便，且咬住性能良好。 Plane grinding major flank's drill bit, easy for grinding, and with good grip performance ● 小直徑鑽頭常用 Commonly used for small-diameter drill bit 	<ul style="list-style-type: none"> ● 兩重頂角的鑽頭，向心性良好，穿通時的毛刺少。 Double apex angle's drill bits, with good centrality, and less burrs when drill through ● 是加工薄板及型材的鑽頭。 It is the drill bit to process thin boards and profiles.

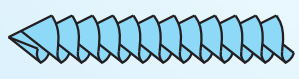



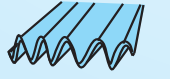

◆ 橫刃修磨 Chisel edge grinding

鑽頭切削刃的前角越靠近鑽頭中心部越小，在橫刃部分呈負前角。切削時中心部分擠壓材料，產生的切削抵抗占50%~70%，而橫刃修磨對於降低鑽頭的切削抵抗、排出橫刃部分產生的切屑以及提高切入性都非常有效。

The closer, the rake angle of drill bit's cutting-edge to the drill bit, the smaller, the center part, and it is negative rake angle at chisel edge part. When cutting, the center part extrudes the materials, and the cutting resistance produced account for 50%~70%, but chisel edge grinding is very efficient in lowering the drill bit's cutting resistance, discharging the cutting produced at chisel edge part and improving cut-in performance.

形狀 Profile	 X型 Type X	 XR型 Type XR	 S型 Type S	 N型 Type N
特徵 Features	軸向負荷大幅降低，切入性提高。鑽心直徑大時有效。 Axial load is greatly reduced, cut-in performance is improved, and efficient when the core bit diameter is large	切入性比X型稍差，但切削刃強度高。工件材料適用範圍廣，使用壽命長。 Cut-in is not as good as that of Type X, but cutting edge strength is high, work piece material is widely applicable, and lifetime is long	容易磨削，一般用得較多。 Easy for grinding, generally it is used more	鑽心直徑較大時有效。 Efficient when the diameter of bit core is larger
主要用途 Main application	一般加工，深孔加工 General machining, machining of deep hole	一般加工不銹鋼。 General machining of stainless steel	鋼、鑄鐵及有色金屬的一般加工。 General machining of steel, casting steel and non-ferrous metal	深孔加工。 Machining of deep hole

◆ 鑽頭加工時的切屑 Chips when drill bit is processed

切屑種類 Cutting type	形狀 Profile	特徵與排出性能 Features and discharge performance
1. 圓錐螺旋形 Taper helical		從切削刃部流出的扇形切屑經容屑槽卷曲形成。在低進給加工延展性材料時產生。數卷後即折斷則切屑排出性能好。 The fan chip from cutting edge is formed via chip flute, when machining ductile materials at low feed, and will break when there are many rolls, so chip discharge is good
2. 長齒形 Long gear		生成切屑不卷曲，照原樣排出，排出時容易纏住鑽頭。 Formed chips don't crimp, and are discharged as is and easy to entwine drill bit when discharging
3. 扇形 Fan		切屑由容屑槽與加工孔壁控制分斷，在高進給情況下產生。切屑處理性能好。 Chips are controlled by chip flute and processed hole-wall, formed at high feed, and chip disposal is good
4. 過渡折斷形 Over breaking		圓錐螺旋形切屑，受加工孔壁的約束，在即將成為長節距前，由於材料塑性不足，切屑斷裂。切屑排出順暢，切屑處理性能良好。 Taper helical chips are restrained by processed hold wall. Before growing into long way of mesh, chips are broken and discharged smoothly because of insufficient material plastics, so chip disposal is good
5. Z字形 Z-profile		生成的切屑由於容屑槽形狀、材料特性等被擠壓、折疊，容易引起槽內阻塞。 Formed chips are squeezed, folded due to profile of chip flute, material characteristics etc, and easily lead to jamming inside the flute
6. 針形 Needle		脆質材料或小卷切屑受振動分斷產生。切屑排出順暢，但有時會在槽內阻塞。 Brittle materials or small rolls of chips are formed by vibration breaking, chips are discharged smoothly, but sometimes they are jammed inside the flute