



# **DreamDrill MQL**

## **Pre-centering**



## DreamDrill MQL – Pre-Centering

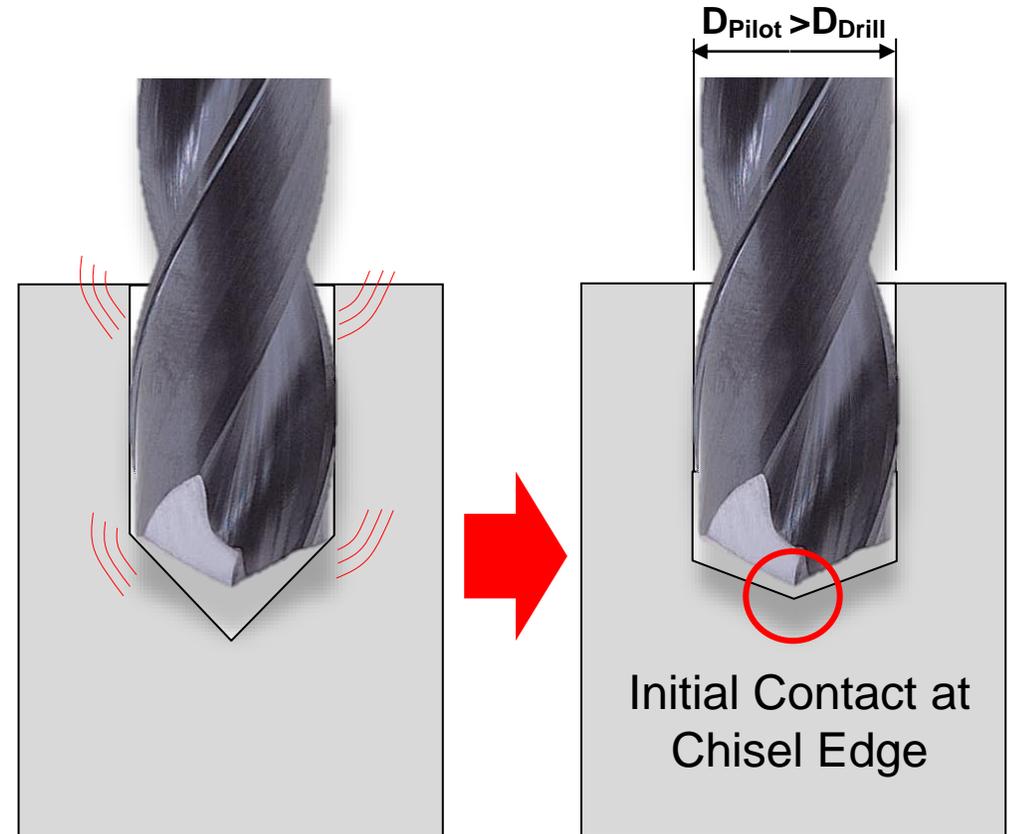
The **Initial Contact** of the DreamDrill MQL must always be made with the **Chisel Edge** in the pilot hole.

**Contact** of the pilot hole wall with the cutting corners of the DreamDrill MQL **must be prevented**.

**Point Angle** of pre-centering drill should be slightly **bigger** than the deep hole drill or have a **Favorable Drill Profile**.

### Consideration for Pre-Centering:

- Pilot Diameter and Tolerance
- Point Angle and Profile
- Depth of Pilot Hole and Drill Length



### STOP

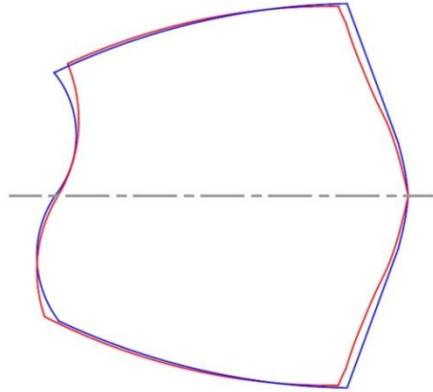
If Possible **Measure** Pilot Hole before DreamDrill MQL is used the 1<sup>st</sup> time!



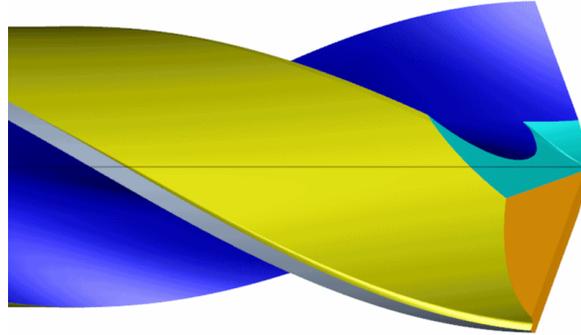
# DreamDrill MQL – Pre-Centering – Point Angle and Profile

Blue Line : DreamDrill Inox

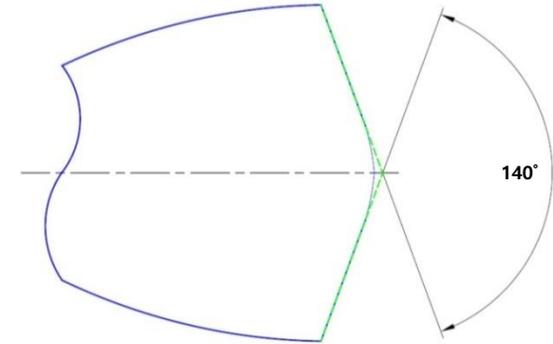
Red Line : DreamDrill MQL



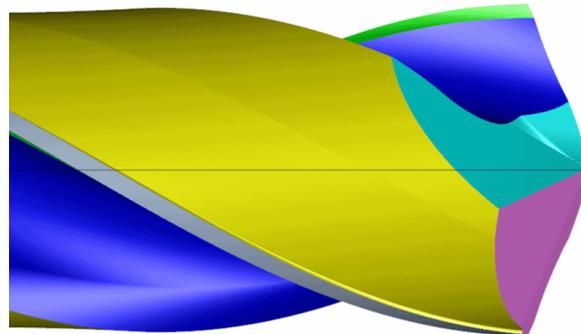
## 1. DREAM DRILLS – INOX



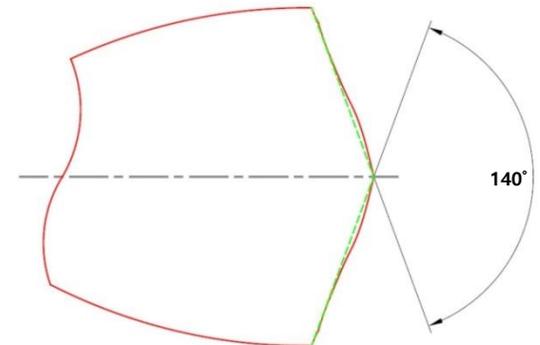
## Cutting Profile



## 2. DREAM DRILLS - MQL



## Cutting Profile



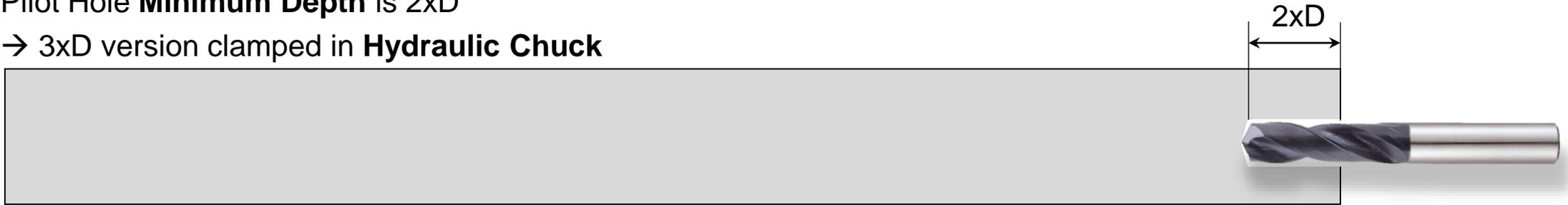
**DreamDrill Inox** is the **First Choice** for precentering DreamDrill MQL

**Initial Contact** with the **Chisel Edge** of the Pilot Drill.

# DreamDrill MQL – Pre-Centering – Depth of Pilot Hole and Drill Length

Pilot Hole **Minimum Depth** is 2xD

→ 3xD version clamped in **Hydraulic Chuck**



In Case of **Abrasive or Hard to Machine Materials** it makes sense to **stager the pilot hole** to safe Tool Life of the DreamDrill MQL. Chamfering after 1<sup>st</sup> pilot hole is highly recommended.



DreamDrill Inox 3xD, 5xD and 8xD are available off the shelf.

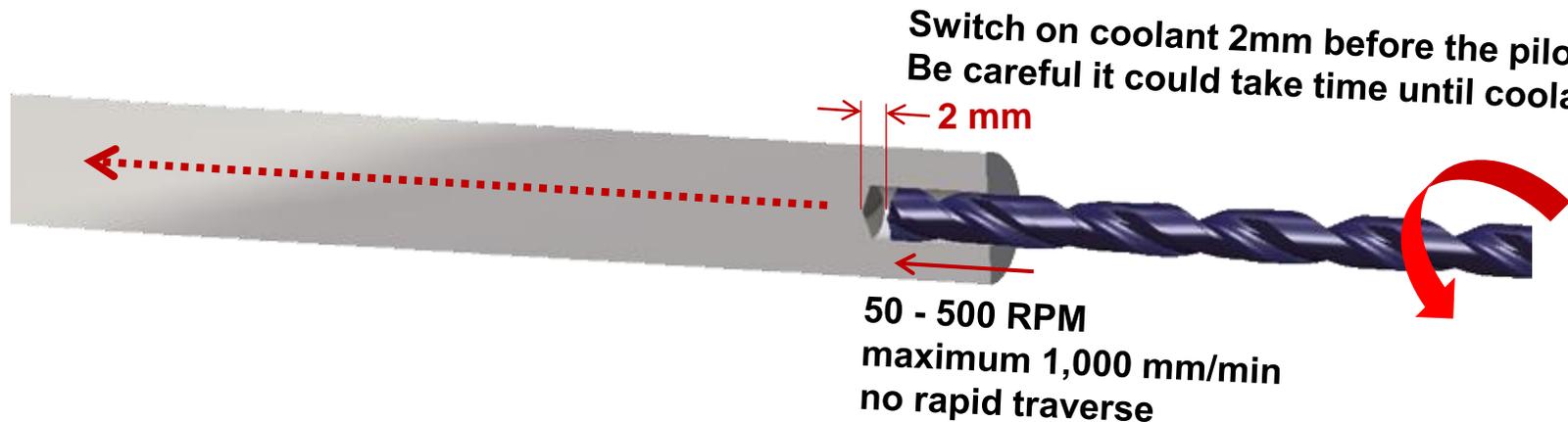
◎ : Excellent ○ : Good

ISO	P										M					K					
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	300	10	29	32	38	15	35	15	23	10	10	26	3	25		21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended		◎	○			◎	○					◎	◎	◎							
ISO	N										S						H				
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○												○				

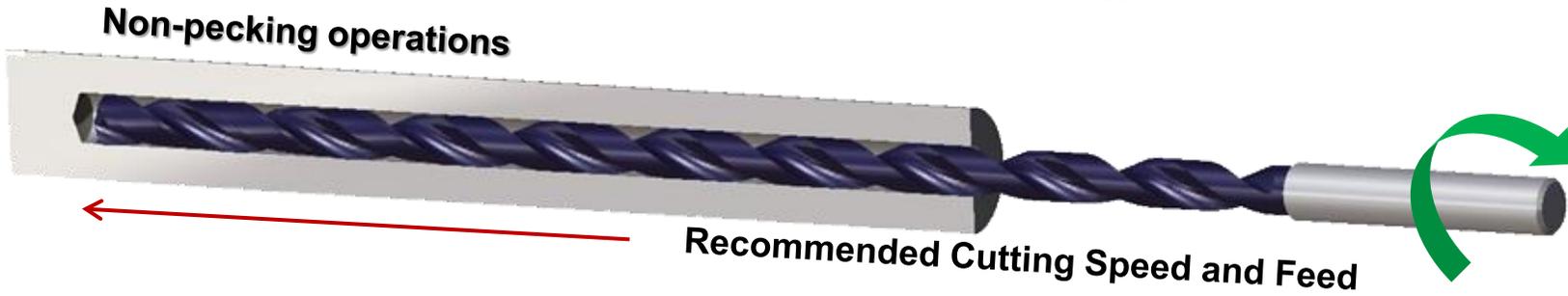


# DreamDrill MQL – Drilling Process

DreamDrill MQL enters the Pilot Hole **without** coolant (emulsion high pressure) switched on. This avoids vibrations, deflection etc.

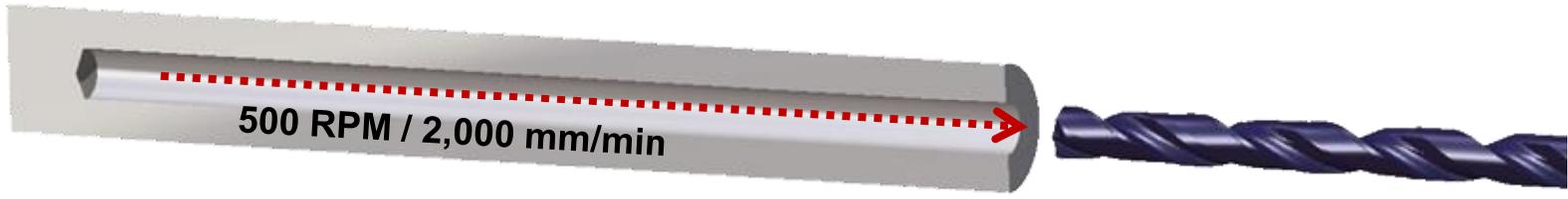


Consider **counterclockwise** rotation to protect cutting corners from damage.



Don't forget to switch to **clockwise** rotation.

Modify cutting speed to optimize drilling process, not feed rate.



No rapid traverse.

