AG Drill Series

AG-SUS Drill

- **Features:**
- **Utilizes a Highly Accurate 3 Rake Thinning Relief: Point Angle Similar to SG-ESS Drill**
- **Next Generation HSS (FMX: Fine Melting HSS) with Composite Multi-Layer AG Coating (TIAlN)**
- **End Mill Shank for Precise and Stable Drilling**
- **Highly Suitable for Drilling in Stainless Steel 300-400 Series**

- **Suitable Work Materials:**
- **300 Series, 400 Series Stainless Steels, Structural Steels, Low Carbon Steels**

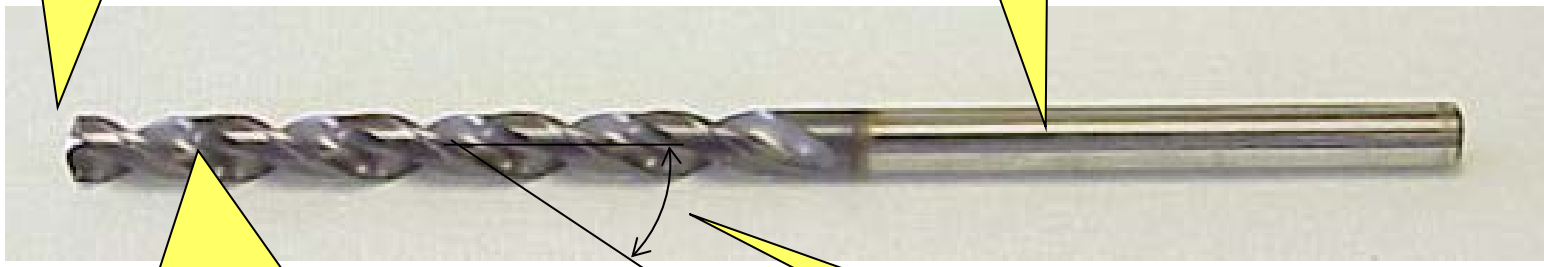
Geometry of AG-SUS Drill

Three Rake Type
Thinning

Low Thrust
Chip Evacuation at Chisel Point

End Mill Shank

Highly Accurate
High Rigid
Easy Handling



Wide Groove
Small Core Diameter

Chip Evacuation
Large Chip Pocket

High Helix

Helix Angle＝Rake Angle
Sharpness

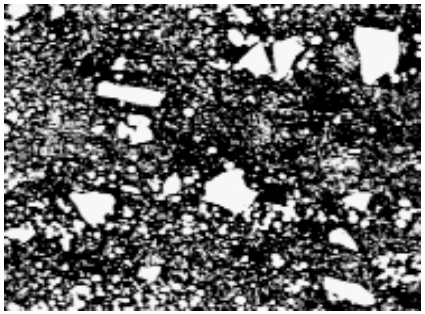
Material Character of FMX

Wear Resistance and Toughness of FMX is Equivalent to PM-HSS

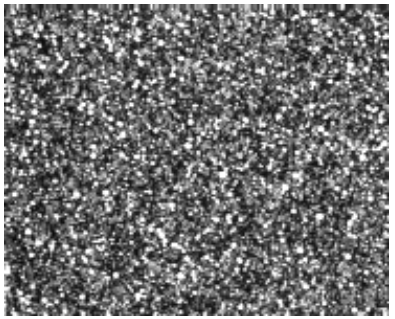
Uniform Carbide Size

High Alloy Content

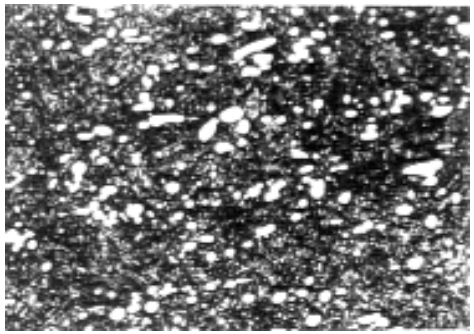
Conventional HSS



PM-HSS



FMX (Fine Melting) HSS



Chip Character of AG-SUS

Small Chips made by Unique Flute Geometry.

Small Chip Shape

AG-SUS Drill Regular

Large Chip Shape

Brand A for Stainless Steel

Cutting Condition

Drill: 6 mm (.2362)

Hole Depth: 12.7mm (.5”) Thru Hole

Speed: 78 SFM

(1260 RPM)

Feed: 190 mm/min (7.50 IPM)

No Pecking

Flood Coolant

Selling Points for AG-SUS Drill

- **Very Suitable for Drilling in Stainless Steel Applications**
- **End Mill Shanks for Precise and Accurate Drilling**
- **AG (TIAlN) Coated**
- **Same Point as SG-ESS Drill**
- **Available Sizes:**
- **Metric in Stub Length**
- **Inch and Metric Sizes in Jobber Length**
- **Replaces SG-ES in Stainless Steel Applications**

Deep Hole Drilling

AG Power long Drill – up to 20 X D Drilling – HSS Co

AG Power Long Drill-For Deep Hole Drilling

For Deep Holes

Parabolic Flute Geometry and Coating Enables Non-Pecking Deep Hole Drilling up to 20 X D in Carbon Steel, Alloy Steel & Cast Iron

Long Tool Life

TIALN Coating on HSS-Co Increases Tool Life

Suitable Materials

Carbon Steel, Alloy Steel, Tool Steel, Pre-Hardened, Hardened Steel, Cast irons, Stainless Steels

Unsuitable Materials

Aluminum, Copper Alloys, Brass

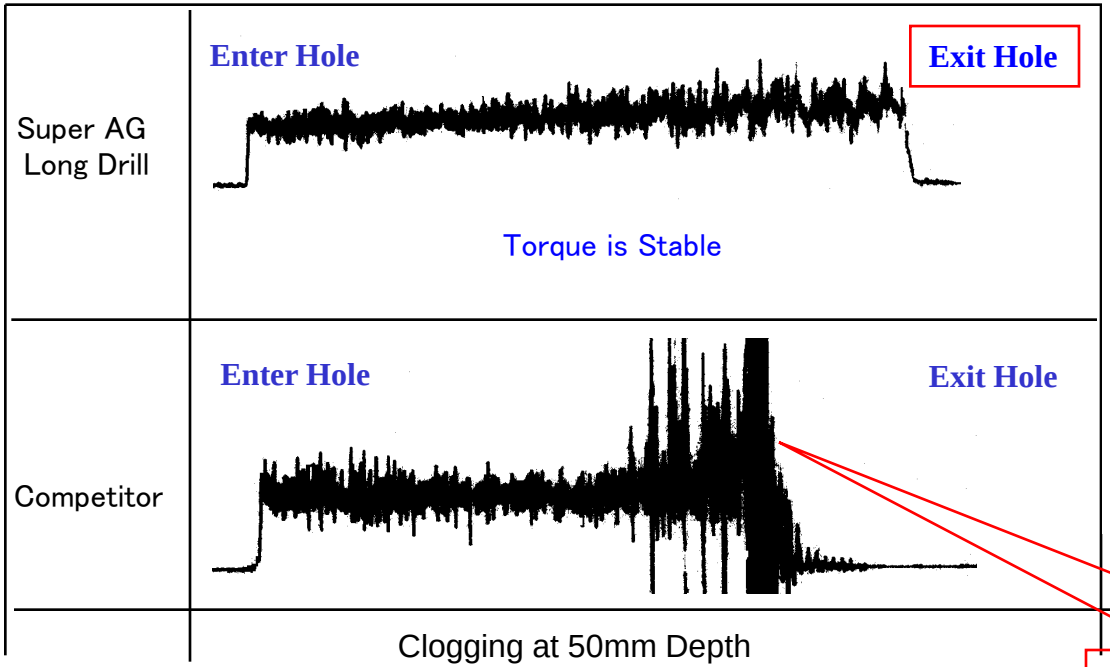
AG Power Long Drill

Suggestions for Deep Hole Drilling:

- Pilot Hole Required: Recommend Same Diameter or up 0.1mm Larger Diameter of the Long Drill
- Use Pecking When Drilling in Stainless Steel and Hardened Steels
- Check for Drill Run out When Drilling Deep Holes

Feature of AG Power Long Drill

Transition of Torque Drilling in Carbon Steel



Cutting Condition
Drill: 6mm (.2362)
Speed : 30m/min (98 SFM)
(1584 RPM)
Feed: 0.1mm/rev (.003 IPR)
(4.75 IPM) Non-Step Drilling
Depth: 100mm Through Hole (4 inches)
Material: C50(217HB)
S50C/ 1049

Torque Increases
Due to Chip Clogging

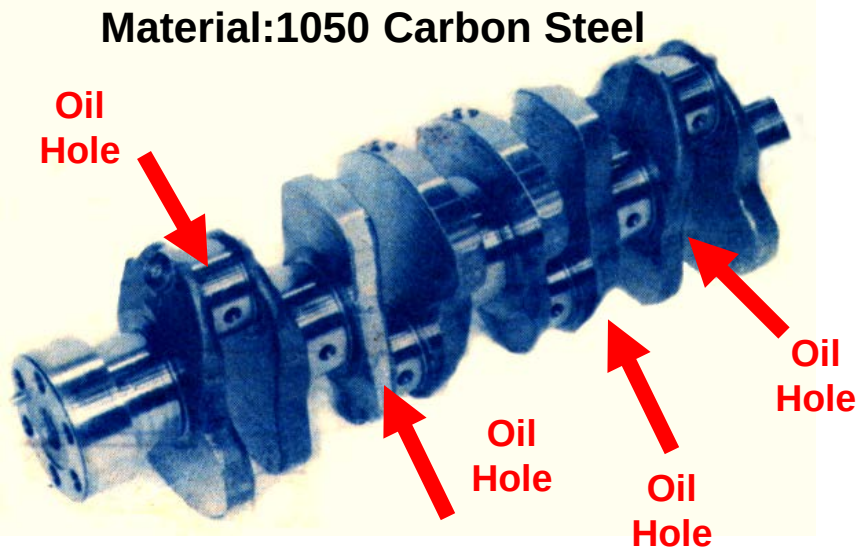
Successful Application
Automotive Crank Shaft

L6540P: AG-Power Long Drill Series 2

- **6.0 mm x 205 mm**

Cutting Condition (3.3mm)

- **Speed: 796 RPM (49 SFM)**
- **Feed: 3.1 IPM (0.004”/rev)**
- **Coolant Water Soluble Emulsion**
- **Non-Pecking**



	Drilled
Competitor A	200 Holes
Competitor B (Powder Metal Drill)	400 Holes (Double the Price of Comp. A)
Nachi	**400** Holes (Same Price as Comp. A)

50% Savings Cost Per Hole

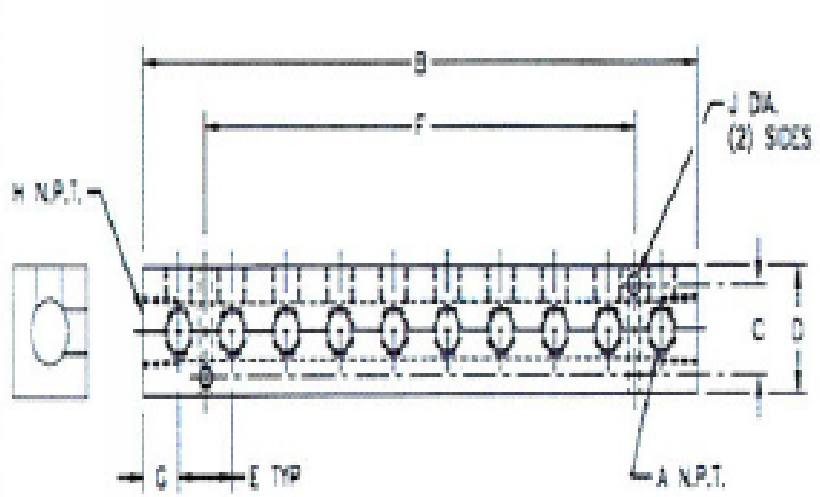
Successful Application Result

Customer: **Food Industry**

L6541P AG Power Long

- **Size = 23/64”**

Manifold-Pneumatic Scale



Cutting Condition

- **Speed: 550 RPM (50 SFM)**
- **Feed: .006 IPR (3.0 IPM)**
- **Flood Coolant**
- **Material: 316 Stainless Steel**
- **Depth of Hole: 4.8”**
- **Hole Deviation: .003” Length of Hole**
- **Peck Depth: .150” Peck**

Note

- **Replaced Competitors HSS-Co Drill**
- **Superior Surface Finish, Hole Deviation of .003” over 5” Drill Depth**

Thank You