

2024 Edition

HSS POWDER METALLURGY

TG x OSTTE

PERFORMANCE HOLE MAKING TOOLS



0.54 0.86 1.22 2.07 2.89 3.12 4.44 5.01 5.38 6.60 8.30 11.10 17.90 24.50



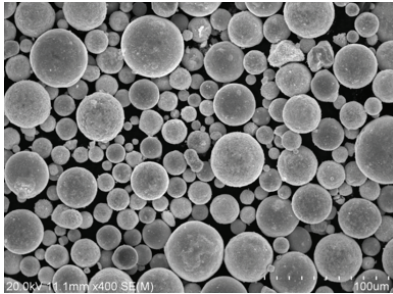
The world's only manufacturer of all-powder series products for general cutting tools

Introduction to TG HSS-PM

INCREASE THE HARDNESS , MORE BENDING STRENGTH and IMPACT TOUGHNESS

TG International ผู้ผลิตทูล ไส้ปัดสตีล อันดับ 1 ของโลก กำลังการผลิตมากกว่า 300 ล้าน ดอกต่อปี และยังเป็นผู้ผลิตวัตถุดิบ ไส้ปัดพาวเดอร์เมทัล (HSS-PM) 1 ใน 3 รายในโลกเท่านั้น

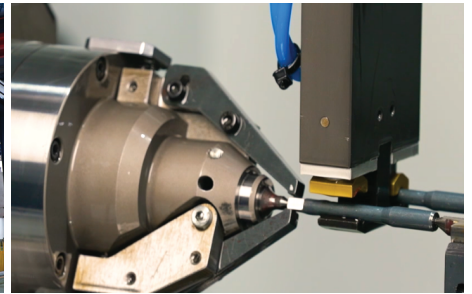
TG Powder metallurgy research center ประสบความสำเร็จในการวิจัยและพัฒนา HSS-PM ประสิทธิภาพสูง หลากหลายเกรด เพื่อผลิต Cutting tools คุณภาพภายใต้แบรนด์ TG / OSTTE ส่งมอบสู่ลูกค้าทั่วโลก



POWDER METALLURGY RESEARCH CENTER



POWDER METAL PRODUCTION FACILITY



ADVANCE PRODUCTION LINE

High speed steel properties

คุณสมบัติของ HSS แต่ละเกรด

Grade		Application	ทนความร้อน Hot hardness	ทนการแตกหัก Toughness	ทนการสึกหรอ Wear resistance
HSS PM	HSS Powder metal	P M K N S H			
HSS M42	HSS Cobalt 8%	P M K N S			
HSS M35	HSS Cobalt 5%	P M K N			
HSS M2	HSS Non-Cobalt	P K N			

Product line

DRILL



168	HSS-PM HIGH PERFORMANCE DRILL-TiAlN Coating
156	HSS-PM STRAIGHT SHANK ROLL FORGED DRILL
106	HSS-Co M42 STRAIGHT SHANK DRILL-TiN Coating
157	HSS-PM TAPER SHANK ROLL FORGED DRILL
140	HSS-Co M35 REDUCE SHANK DRILL-TiN Coating
153	HSS-Co M42 SPOT DRILL-TiN Coating
010	HSS-Co M35 FORM A CENTER DRILL

ENDMILL



3054	4F HSS M42 Co8% ROUGHING ENDMILL
3042	2F HSS M35 Co5% ENDMILL
3043	3F HSS M35 Co5% ENDMILL
3044	4F HSS M35 Co5% ENDMILL

COUNTERSINK



350	1F/3F-TiCN HSS M35 COUNTERSINK
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JIS MACHINE TAP

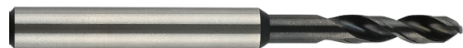


232	POT-HSS-M3 UNIVERSAL POINTED TAP -TiN Coating
237	SFT-HSS-M3 UNIVERSAL SPIRAL TAP -TiN Coating
281	POT HSS-PM UNIVERSAL POINTED TAP
282	SFT HSS-PM UNIVERSAL SPIRAL TAP
256	POT HSS-PM PERFORMANCE POINTED TAP-AlCrN Coating
257	SFT HSS-PM PERFORMANCE SPIRAL TAP-AlCrN Coating
289	SFT-HSS-PM SPIRAL TAPS FOR STAINLESS-TiCN Coating
286	NRT-HSS-PM FORMING TAP <Through Hole> -TiN Coating
287	NRT-HSS-PM FORMING TAP <Blind Hole> -TiN Coating

HSS POWDER METAL

High performance drill <TiCN>

ดอกสว่านไฮสปีดพาวเดอร์ ไทคัตติง



168 Application

TG unique drill point geometry
for high speed drilling and tolerance control
Suitable for most of material



ทนกว่าดอก HSS ปกติหลายเท่าตัว ใช้งานได้เร็วกว่า
ทนการแตกหักได้ดีกว่าดอกสว่านคาร์ไบด์ ไม่ต้องใช้ดอกนำศูนย์

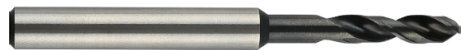


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1680055A	0.55X3X38X3	847	1680115A	1.15X7X39X3	369	1680175A	1.75X11X43X3	356	1680235A	2.35X13X45X3	365
1680056A	0.56X3X38X3	938	1680116A	1.16X7X39X3	606	1680176A	1.76X11X43X3	541	1680236A	2.36X13X45X3	550
1680057A	0.57X3X38X3	938	1680117A	1.17X7X39X3	606	1680177A	1.77X11X43X3	541	1680237A	2.37X14X46X3	550
1680058A	0.58X3X38X3	938	1680118A	1.18X7X39X3	606	1680178A	1.78X11X43X3	541	1680238A	2.38X14X46X3	550
1680059A	0.59X3X38X3	938	1680119A	1.19X8X40X3	606	1680179A	1.79X11X43X3	541	1680239A	2.39X14X46X3	550
1680060A	0.6X3.5X38X3	782	1680120A	1.2X8X40X3	369	1680180A	1.8X11X43X3	356	1680240A	2.4X14X46X3	365
1680061A	0.61X3.5X38X3	860	1680121A	1.21X8X40X3	606	1680181A	1.81X11X43X3	541	1680241A	2.41X14X46X3	550
1680062A	0.62X3.5X38X3	860	1680122A	1.22X8X40X3	606	1680182A	1.82X11X43X3	541	1680242A	2.42X14X46X3	550
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1680064A	0.64X3.5X38X3	860	1680124A	1.24X8X40X3	606	1680184A	1.84X11X43X3	541	1680244A	2.44X14X46X3	550
1680065A	0.65X3.5X38X3	775	1680125A	1.25X8X40X3	369	1680185A	1.85X11X43X3	356	1680245A	2.45X14X46X3	365
1680066A	0.66X3.5X38X3	860	1680126A	1.26X8X40X3	606	1680186A	1.86X11X43X3	541	1680246A	2.46X14X46X3	550
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1680072A	0.72X4.5X38X3	821	1680132A	1.32X8X40X3	606	1680192A	1.92X12X44X3	541	1680252A	2.52X14X46X3	550
1680073A	0.73X4.5X38X3	821	1680133A	1.33X9X41X3	606	1680193A	1.93X12X44X3	541	1680253A	2.53X14X46X3	550
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1680077A	0.77X4.5X38X3	821	1680137A	1.37X9X41X3	606	1680197A	1.97X12X44X3	541	1680257A	2.57X14X46X3	550
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1680081A	0.81X5X38X3	775	1680141A	1.41X9X41X3	606	1680201A	2.01X12X44X3	550	1680261A	2.61X14X46X3	550
1680082A	0.82X5X38X3	775	1680142A	1.42X9X41X3	606	1680202A	2.02X12X44X3	550	1680262A	2.62X14X46X3	550
1680083A	0.83X5X38X3	775	1680143A	1.43X9X41X3	606	1680203A	2.03X12X44X3	550	1680263A	2.63X14X46X3	550
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1680085A	0.85X5X38X3	704	1680145A	1.45X9X41X3	369	1680205A	2.05X12X44X3	365	1680265A	2.65X14X46X3	380
1680086A	0.86X5X38X3	775	1680146A	1.46X9X41X3	606	1680206A	2.06X12X44X3	550	1680266A	2.66X16X48X3	550
1680087A	0.87X5X38X3	775	1680147A	1.47X9X41X3	606	1680207A	2.07X12X44X3	550	1680267A	2.67X16X48X3	550
1680088A	0.88X5X38X3	775	1680148A	1.48X9X41X3	606	1680208A	2.08X12X44X3	550	1680268A	2.68X16X48X3	550
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1680090A	0.9X5.5X38X3	664	1680150A	1.5X9X41X3	369	1680210A	2.1X12X44X3	365	1680270A	2.7X16X48X3	380
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1680092A	0.92X5.5X38X3	717	1680152A	1.52X10X42X3	541	1680212A	2.12X12X44X3	550	1680272A	2.72X16X48X3	550
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1680095A	0.95X5.5X38X3	651	1680155A	1.55X10X42X3	356	1680215A	2.15X13X45X3	365	1680275A	2.75X16X48X3	380
1680096A	0.96X5.5X38X3	717	1680156A	1.56X10X42X3	541	1680216A	2.16X13X45X3	550	1680276A	2.76X16X48X3	550
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1680098A	0.98X5.5X38X3	717	1680158A	1.58X10X42X3	541	1680218A	2.18X13X45X3	550	1680278A	2.78X16X48X3	550
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1680102A	1.02X6X38X3	606	1680162A	1.62X10X42X3	541	1680222A	2.22X13X45X3	550	1680282A	2.82X16X48X3	550
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1680106A	1.06X6X38X3	606	1680166A	1.66X10X42X3	541	1680226A	2.26X13X45X3	550	1680286A	2.86X16X48X3	550
1680107A	1.07X7X39X3	606	1680167A	1.67X10X42X3	541	1680227A	2.27X13X45X3	550	1680287A	2.87X16X48X3	550
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HSS POWDER METAL

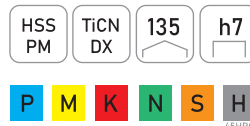
High performance drill <TiCN>

ดอกสว่านไฮสปีดพาวเดอร์ ไทคีน



168 Application

TG unique drill point geometry
for high speed drilling and tolerance control
Suitable for most of material



มากกว่าดอก HSS ปกติหลายเท่าตัว ใช้งานได้เร็วกว่า
จนการแตกหักได้ต่ำกว่าดอกสว่านคาร์ไบด์ ไม่ต้องใช้ดอกนำศูนย์



Code	D x Lc x L x S	List
1680290A	2.9X16X48X3	380
1680291A	2.91X16X48X3	550
1680292A	2.92X16X48X3	550
1680293A	2.93X16X48X3	550
1680294A	2.94X16X48X3	550
1680295A	2.95X16X48X3	380
1680296A	2.96X16X48X3	550
1680297A	2.97X16X48X3	550
1680298A	2.98X16X48X3	550
1680299A	2.99X16X48X3	550
1680300A	3.0X16X48X3	380
1680301A	3.01X18X50X4	595
1680302A	3.02X18X50X4	595
1680303A	3.03X18X50X4	595
1680304A	3.04X18X50X4	595
1680305A	3.05X18X50X4	428
1680306A	3.06X18X50X4	595
1680307A	3.07X18X50X4	595
1680308A	3.08X18X50X4	595
1680309A	3.09X18X50X4	595
1680310A	3.1X18X50X4	428
1680311A	3.11X18X50X4	595
1680312A	3.12X18X50X4	595
1680313A	3.13X18X50X4	595
1680314A	3.14X18X50X4	595
1680315A	3.15X18X50X4	428
1680316A	3.16X18X50X4	595
1680317A	3.17X18X50X4	595
1680318A	3.18X18X50X4	595
1680319A	3.19X18X50X4	595
1680320A	3.2X18X50X4	428
1680321A	3.21X18X50X4	595
1680322A	3.22X18X50X4	595
1680323A	3.23X18X50X4	595
1680324A	3.24X18X50X4	595
1680325A	3.25X18X50X4	428
1680326A	3.26X18X50X4	595
1680327A	3.27X18X50X4	595
1680328A	3.28X18X50X4	595
1680329A	3.29X18X50X4	595
1680330A	3.3X18X50X4	428
1680331A	3.31X18X50X4	595
1680332A	3.32X18X50X4	595
1680333A	3.33X18X50X4	595
1680334A	3.34X18X50X4	595
1680335A	3.35X18X50X4	428
1680336A	3.36X20X52X4	595
1680337A	3.37X20X52X4	595
1680338A	3.38X20X52X4	595
1680339A	3.39X20X52X4	595
1680340A	3.4X20X52X4	428
1680341A	3.41X20X52X4	595
1680342A	3.42X20X52X4	595
1680343A	3.43X20X52X4	595
1680344A	3.44X20X52X4	595
1680345A	3.45X20X52X4	428
1680346A	3.46X20X52X4	595
1680347A	3.47X20X52X4	595
1680348A	3.48X20X52X4	595
1680349A	3.49X20X52X4	595

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1680353A	3.53X20X52X4	720
1680354A	3.54X20X52X4	720
1680355A	3.55X20X52X4	470
1680356A	3.56X20X52X4	720
1680357A	3.57X20X52X4	720
1680358A	3.58X20X52X4	720
1680359A	3.59X20X52X4	720
1680360A	3.6X20X52X4	470
1680361A	3.61X20X52X4	720
1680362A	3.62X20X52X4	720
1680363A	3.63X20X52X4	720
1680364A	3.64X20X52X4	720
1680365A	3.65X20X52X4	470
1680366A	3.66X20X52X4	720
1680367A	3.67X20X52X4	720
1680368A	3.68X20X52X4	720
1680369A	3.69X20X52X4	720
1680370A	3.7X20X52X4	470
1680371A	3.71X20X52X4	720
1680372A	3.72X20X52X4	720
1680373A	3.73X20X52X4	720
1680374A	3.74X20X52X4	720
1680375A	3.75X20X52X4	470
1680376A	3.76X22X54X4	720
1680377A	3.77X22X54X4	720
1680378A	3.78X22X54X4	720
1680379A	3.79X22X54X4	720
1680380A	3.8X22X54X4	470
1680381A	3.81X22X54X4	720
1680382A	3.82X22X54X4	720
1680383A	3.83X22X54X4	720
1680384A	3.84X22X54X4	720
1680385A	3.85X22X54X4	470
1680386A	3.86X22X54X4	720
1680387A	3.87X22X54X4	720
1680388A	3.88X22X54X4	720
1680389A	3.89X22X54X4	720
1680390A	3.9X22X54X4	470
1680391A	3.91X22X54X4	720
1680392A	3.92X22X54X4	720
1680393A	3.93X22X54X4	720
1680394A	3.94X22X54X4	720
1680395A	3.95X22X54X4	470
1680396A	3.96X22X54X4	720
1680397A	3.97X22X54X4	720
1680398A	3.98X22X54X4	720
1680399A	3.99X22X54X4	720
1680400A	4.0X22X54X4	470
1680401A	4.01X22X66X6	830
1680402A	4.02X22X66X6	830
1680403A	4.03X22X66X6	830
1680404A	4.04X22X66X6	830
1680405A	4.05X22X66X6	533
1680406A	4.06X22X66X6	830
1680407A	4.07X22X66X6	830
1680408A	4.08X22X66X6	830
1680409A	4.09X22X66X6	830

Code	D x Lc x L x S	List
1680410A	4.1X22X66X6	533
1680411A	4.11X22X66X6	830
1680412A	4.12X22X66X6	830
1680413A	4.13X22X66X6	830
1680414A	4.14X22X66X6	830
1680415A	4.15X22X66X6	533
1680416A	4.16X22X66X6	830
1680417A	4.17X22X66X6	830
1680418A	4.18X22X66X6	830
1680419A	4.19X22X66X6	830
1680420A	4.2X22X66X6	533
1680421A	4.21X22X66X6	830
1680422A	4.22X22X66X6	830
1680423A	4.23X22X66X6	830
1680424A	4.24X22X66X6	830
1680425A	4.25X22X66X6	533
1680426A	4.26X24X68X6	830
1680427A	4.27X24X68X6	830
1680428A	4.28X24X68X6	830
1680429A	4.29X24X68X6	830
1680430A	4.3X24X68X6	533
1680431A	4.31X24X68X6	830
1680432A	4.32X24X68X6	830
1680433A	4.33X24X68X6	830
1680434A	4.34X24X68X6	830
1680435A	4.35X24X68X6	533
1680436A	4.36X24X68X6	830
1680437A	4.37X24X68X6	830
1680438A	4.38X24X68X6	830
1680439A	4.39X24X68X6	830
1680440A	4.4X24X68X6	533
1680441A	4.41X24X68X6	830
1680442A	4.42X24X68X6	830
1680443A	4.43X24X68X6	830
1680444A	4.44X24X68X6	830
1680445A	4.45X24X68X6	533
1680446A	4.46X24X68X6	830
1680447A	4.47X24X68X6	830
1680448A	4.48X24X68X6	830
1680449A	4.49X24X68X6	830
1680450A	4.5X24X68X6	533
1680451A	4.51X24X68X6	950
1680452A	4.52X24X68X6	950
1680453A	4.53X24X68X6	950
1680454A	4.54X24X68X6	950
1680455A	4.55X24X68X6	596
1680456A	4.56X24X68X6	950
1680457A	4.57X24X68X6	950
1680458A	4.58X24X68X6	950
1680459A	4.59X24X68X6	950
1680460A	4.6X24X68X6	596
1680461A	4.61X24X68X6	950
1680462A	4.62X24X68X6	950
1680463A	4.63X24X68X6	950
1680464A	4.64X24X68X6	950
1680465A	4.65X24X68X6	596
1680466A	4.66X24X68X6	950
1680467A	4.67X24X68X6	950
1680468A	4.68X24X68X6	950
1680469A	4.69X24X68X6	950

Code	D x Lc x L x S	List
1680470A	4.7X24X68X6	596
1680471A	4.71X24X68X6	950
1680472A	4.72X24X68X6	950
1680473A	4.73X24X68X6	950
1680474A	4.74X24X68X6	950
1680475A	4.75X24X68X6	596
1680476A	4.76X26X70X6	950
1680477A	4.77X26X70X6	950
1680478A	4.78X26X70X6	950
1680479A	4.79X26X70X6	950
1680480A	4.8X26X70X6	596
1680481A	4.81X26X70X6	950
1680482A	4.82X26X70X6	950
1680483A	4.83X26X70X6	950
1680484A	4.84X26X70X6	950
1680485A	4.85X26X70X6	596
1680486A	4.86X26X70X6	950
1680487A	4.87X26X70X6	950
1680488A	4.88X26X70X6	950
1680489A	4.89X26X70X6	950
1680490A	4.9X26X70X6	596
1680491A	4.91X26X70X6	950
1680492A	4.92X26X70X6	950
1680493A	4.93X26X70X6	950
1680494A	4.94X26X70X6	950
1680495A	4.95X26X70X6	596
1680496A	4.96X26X70X6	950
1680497A	4.97X26X70X6	950
1680498A	4.98X26X70X6	950
1680499A	4.99X26X70X6	950
1680500A	5.0X26X70X6	596
1680501A	5.01X26X70X6	1,090
1680502A	5.02X26X70X6	1,090
1680503A	5.03X26X70X6	1,090
1680504A	5.04X26X70X6	1,090
1680505A	5.05X26X70X6	709
1680506A	5.06X26X70X6	1,090
1680507A	5.07X26X70X6	1,090
1680508A	5.08X26X70X6	1,090
1680509A	5.09X26X70X6	1,090
1680510A	5.1X26X70X6	709
1680511A	5.11X26X70X6	1,090
1680512A	5.12X26X70X6	1,090
1680513A	5.13X26X70X6	1,090
1680514A	5.14X26X70X6	1,090
1680515A	5.15X26X70X6	709
1680516A	5.16X26X70X6	1,090
1680517A	5.17X26X70X6	1,090
1680518A	5.18X26X70X6	1,090
1680519A	5.19X26X70X6	1,090
1680520A	5.2X26X70X6	709
1680521A	5.21X26X70X6	1,090
1680522A	5.22X26X70X6	1,090
1680523A	5.23X26X70X6	1,090
1680524A	5.24X26X70X6	1,090
1680525A	5.25X26X70X6	709
1680526A	5.26X26X70X6	1,090
1680527A	5.27X26X70X6	1,090
1680528A	5.28X26X70X6	1,090
1680529A	5.29X26X70X6	1,090

HSS POWDER METAL

High performance drill <TiCN>

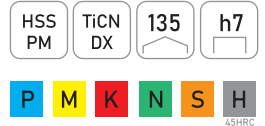
ดอกสว่านไฮสปีดพาวเดอร์ โลหะทัง



168

Application

TG unique drill point geometry for
high speed drilling and tolerance control
Suitable for most of materials



ทนกว่าดอก HSS ปกติหลายเท่าตัว ใช้งานได้เร็วกว่า
ทนการแตกหักได้ดีกว่าดอกสว่านคาร์ไบด์ ไม่ต้องใช้ดอกนำศูนย์



Code	D x Lc x L x S	List	Code	D x Lc x L x S	List	Code	D x Lc x L x S	List	Code	D x Lc x L x S	List
1680530A	5.3X26X70X6	709	1680590A	5.9X28X72X6	758	1681100A	11.0X47X104X12	1,445	1681700A	17.0X84X150X20	4,350
1680531A	5.31X28X72X6	1,090	1680591A	5.91X28X72X6	1,170	1681110A	11.1X47X104X12	1,635	1681710A	17.1X87X153X20	4,700
1680532A	5.32X28X72X6	1,090	1680592A	5.92X28X72X6	1,170	1681120A	11.2X47X104X12	1,635	1681720A	17.2X87X153X20	4,700
1680533A	5.33X28X72X6	1,090	1680593A	5.93X28X72X6	1,170	1681130A	11.3X47X104X12	1,635	1681730A	17.3X87X153X20	4,700
1680534A	5.34X28X72X6	1,090	1680594A	5.94X28X72X6	1,170	1681140A	11.4X47X104X12	1,635	1681740A	17.4X87X153X20	4,700
1680535A	5.35X28X72X6	709	1680595A	5.95X28X72X6	758	1681150A	11.5X47X104X12	1,635	1681750A	17.5X87X153X20	4,700
1680536A	5.36X28X72X6	1,090	1680596A	5.96X28X72X6	1,170	1681160A	11.6X47X104X12	1,775	1681760A	17.6X87X153X20	4,700
1680537A	5.37X28X72X6	1,090	1680597A	5.97X28X72X6	1,170	1681170A	11.7X47X104X12	1,775	1681770A	17.7X87X153X20	4,700
1680538A	5.38X28X72X6	1,090	1680598A	5.98X28X72X6	1,170	1681180A	11.8X47X104X12	1,775	1681780A	17.8X87X153X20	4,700
1680539A	5.39X28X72X6	1,090	1680599A	5.99X28X72X6	1,170	1681190A	11.9X51X108X12	1,775	1681790A	17.9X87X153X20	4,700
1680540A	5.4X28X72X6	709	1680600A	6.0X28X72X6	690	1681200A	12.0X51X108X12	1,710	1681800A	18.0X87X153X20	4,700
1680541A	5.41X28X72X6	1,090	1680610A	6.1X31X75X8	825	1681210A	12.1X51X108X12	1,922	1681810A	18.1X90X156X20	5,009
1680542A	5.42X28X72X6	1,090	1680620A	6.2X31X75X8	825	1681220A	12.2X51X108X12	1,922	1681820A	18.2X90X156X20	5,009
1680543A	5.43X28X72X6	1,090	1680630A	6.3X31X75X8	825	1681230A	12.3X51X108X12	1,922	1681830A	18.3X90X156X20	5,009
1680544A	5.44X28X72X6	1,090	1680640A	6.4X31X75X8	825	1681240A	12.4X51X108X12	1,922	1681840A	18.4X90X156X20	5,009
1680545A	5.45X28X72X6	709	1680650A	6.5X31X75X8	825	1681250A	12.5X51X108X12	1,922	1681850A	18.5X90X156X20	5,009
1680546A	5.46X28X72X6	1,090	1680660A	6.6X31X75X8	869	1681260A	12.6X51X108X12	2,091	1681860A	18.6X90X164X25	5,009
1680547A	5.47X28X72X6	1,090	1680670A	6.7X31X75X8	869	1681270A	12.7X51X108X12	2,091	1681870A	18.7X90X164X25	5,009
1680548A	5.48X28X72X6	1,090	1680680A	6.8X34X78X8	869	1681280A	12.8X51X108X12	2,091	1681880A	18.8X90X164X25	5,009
1680549A	5.49X28X72X6	1,090	1680690A	6.9X34X78X8	869	1681290A	12.9X51X108X12	2,091	1681890A	18.9X90X164X25	5,009
1680550A	5.5X28X72X6	709	1680700A	7X34X78X8	825	1681300A	13.0X51X108X12	2,091	1681900A	19.0X90X164X25	5,009
1680551A	5.51X28X72X6	1,170	1680710A	7.1X34X78X8	890	1681310A	13.1X51X108X12	2,918	1681910A	19.1X94X168X25	6,216
1680552A	5.52X28X72X6	1,170	1680720A	7.2X34X78X8	890	1681320A	13.2X51X108X12	2,918	1681920A	19.2X94X168X25	6,216
1680553A	5.53X28X72X6	1,170	1680730A	7.3X34X78X8	890	1681330A	13.3X72X132X16	2,918	1681930A	19.3X94X168X25	6,216
1680554A	5.54X28X72X6	1,170	1680740A	7.4X34X78X8	890	1681340A	13.4X72X132X16	2,918	1681940A	19.4X94X168X25	6,216
1680555A	5.55X28X72X6	758	1680750A	7.5X34X78X8	890	1681350A	13.5X72X132X16	2,918	1681950A	19.5X94X168X25	6,216
1680556A	5.56X28X72X6	1,170	1680760A	7.6X37X81X8	930	1681360A	13.6X72X132X16	2,918	1681960A	19.6X94X168X25	6,216
1680557A	5.57X28X72X6	1,170	1680770A	7.7X37X81X8	930	1681370A	13.7X72X132X16	2,918	1681970A	19.7X94X168X25	6,216
1680558A	5.58X28X72X6	1,170	1680780A	7.8X37X81X8	930	1681380A	13.8X72X132X16	2,918	1681980A	19.8X94X168X25	6,216
1680559A	5.59X28X72X6	1,170	1680790A	7.9X37X81X8	930	1681390A	13.9X72X132X16	2,918	1681990A	19.9X94X168X25	6,216
1680560A	5.6X28X72X6	758	1680800A	8.0X37X81X8	890	1681400A	14.0X72X132X16	2,918	1682000A	20.0X94X168X25	6,216
1680561A	5.61X28X72X6	1,170	1680810A	8.1X37X87X10	1040	1681410A	14.1X76X136X16	3,213			
1680562A	5.62X28X72X6	1,170	1680820A	8.2X37X87X10	1040	1681420A	14.2X76X136X16	3,213			
1680563A	5.63X28X72X6	1,170	1680830A	8.3X37X87X10	1040	1681430A	14.3X76X136X16	3,213			
1680564A	5.64X28X72X6	1,170	1680840A	8.4X37X87X10	1040	1681440A	14.4X76X136X16	3,213			
1680565A	5.65X28X72X6	758	1680850A	8.5X37X87X10	1040	1681450A	14.5X76X136X16	3,213			
1680566A	5.66X28X72X6	1,170	1680860A	8.6X40X90X10	1,090	1681460A	14.6X76X142X20	3,929			
1680567A	5.67X28X72X6	1,170	1680870A	8.7X40X90X10	1,090	1681470A	14.7X76X142X20	3,929			
1680568A	5.68X28X72X6	1,170	1680880A	8.8X40X90X10	1,090	1681480A	14.8X76X142X20	3,929			
1680569A	5.69X28X72X6	1,170	1680890A	8.9X40X90X10	1,090	1681490A	14.9X76X142X20	3,929			
1680570A	5.7X28X72X6	758	1680900A	9.0X40X90X10	1,040	1681500A	15.0X76X142X20	3,929			
1680571A	5.71X28X72X6	1,170	1680910A	9.1X40X90X10	1,160	1681510A	15.1X80X146X20	4,195			
1680572A	5.72X28X72X6	1,170	1680920A	9.2X40X90X10	1,160	1681520A	15.2X80X146X20	4,195			
1680573A	5.73X28X72X6	1,170	1680930A	9.3X40X90X10	1,160	1681530A	15.3X80X146X20	4,195			
1680574A	5.74X28X72X6	1,170	1680940A	9.4X40X90X10	1,160	1681540A	15.4X80X146X20	4,195			
1680575A	5.75X28X72X6	758	1680950A	9.5X40X90X10	1,160	1681550A	15.5X80X146X20	4,195			
1680576A	5.76X28X72X6	1,170	1680960A	9.6X43X93X10	1,230	1681560A	15.6X80X146X20	4,195			
1680577A	5.77X28X72X6	1,170	1680970A	9.7X43X93X10	1,230	1681570A	15.7X80X146X20	4,195			
1680578A	5.78X28X72X6	1,170	1680980A	9.8X43X93X10	1,230	1681580A	15.8X80X146X20	4,195			
1680579A	5.79X28X72X6	1,170	1680990A	9.9X43X93X10	1,230	1681590A	15.9X80X146X20	4,195			
1680580A	5.8X28X72X6	758	1681000A	10.0X43X93X10	1,160	1681600A	16.0X80X146X20	4,195			
1680581A	5.81X28X72X6	1,170	1681010A	10.1X43X100X12	1,319	1681610A	16.1X84X150X20	4,350			
1680582A	5.82X28X72X6	1,170	1681020A	10.2X43X100X12	1,319	1681620A	16.2X84X150X20	4,350			
1680583A	5.83X28X72X6	1,170	1681030A	10.3X43X100X12	1,319	1681630A	16.3X84X150X20	4,350			
1680584A	5.84X28X72X6	1,170	1681040A	10.4X43X100X12	1,319	1681640A	16.4X84X150X20	4,350			
1680585A	5.85X28X72X6	758	1681050A	10.5X43X100X12	1,319	1681650A	16.5X84X150X20	4,350			
1680586A	5.86X28X72X6	1,170	1681060A	10.6X43X100X12	1,445	1681660A	16.6X84X150X20	4,350			
1680587A	5.87X28X72X6	1,170	1681070A	10.7X47X104X12	1,445	1681670A	16.7X84X150X20	4,350			
1680588A	5.88X28X72X6	1,170	1681080A	10.8X47X104X12	1,445	1681680A	16.8X84X150X20	4,350			
1680589A	5.89X28X72X6	1,170	1681090A	10.9X47X104X12	1,445	1681690A	16.9X84X150X20	4,350			

HSS POWDER METAL



Straight shank twist drill <Roll Forged>

ส่วนไฮสปีดพาวเดอร์ ก้านตรง ทนกว่าดอก HSS ปกติหลายเท่าตัว

156 Application

Economical type HSS-PM drill for universal use 2-5 times tool life compare to normal HSS drill



HSS COBALT M42 TiN



Straight shank twist drill <Precision ground>

ส่วนโคบอลต์ 8% ก้านตรง ไลค์ไทเทเนียม เจียรมคมทั้งตัว ให้ความเที่ยงตรงสูง

106 Application

High concentricity and accuracy for production use



D x Lc x L	156 HSS-PM	List	106 HSS-M42	List
1.0x12x34	1560100A	56	1060100A	54
1.1x14x36	1560110A	56	1060110A	54
1.2x16x38	1560120A	56	1060120A	54
1.3x16x38	1560130A	56	1060130A	54
1.4x18x40	1560140A	56	1060140A	54
1.5x18x40	1560150A	56	1060150A	54
1.6x20x43	1560160A	56	1060160A	65
1.7x20x43	1560170A	56	1060170A	65
1.8x22x46	1560180A	56	1060180A	65
1.9x22x46	1560190A	56	1060190A	65
2.0x24x49	1560200A	59	1060200A	65
2.1x24x49	1560210A	59	1060210A	70
2.2x27x53	1560220A	59	1060220A	70
2.3x27x53	1560230A	59	1060230A	70
2.4x30x57	1560240A	59	1060240A	70
2.5x30x57	1560250A	59	1060250A	70
2.6x30x57	1560260A	59	1060260A	73
2.7x33x61	1560270A	59	1060270A	73
2.8x33x61	1560280A	59	1060280A	73
2.9x33x61	1560290A	59	1060290A	73
3.0x32x61	1560300A	73	1060300A	73
3.1x35x65	1560310A	73	1060310A	79
3.2x35x65	1560320A	73	1060320A	79
3.3x35x65	1560330A	73	1060330A	79
3.4x38x70	1560340A	73	1060340A	79
3.5x38x70	1560350A	73	1060350A	79
3.6x38x70	1560360A	73	1060360A	85
3.7x38x70	1560370A	73	1060370A	85
3.8x42x75	1560380A	73	1060380A	85
3.9x74x75	1560390A	73	1060390A	85
4.0x42x75	1560400A	73	1060400A	85
4.1x42x75	1560410A	82	1060410A	119
4.2x42x75	1560420A	82	1060420A	119
4.3x46x80	1560430A	82	1060430A	119
4.4x46x80	1560440A	82	1060440A	119
4.5x46x80	1560450A	82	1060450A	119
4.6x46x80	1560460A	94	1060460A	135
4.7x46x80	1560470A	94	1060470A	135
4.8x51x86	1560480A	94	1060480A	135
4.9x51x86	1560490A	94	1060490A	135
5.0x51x86	1560500A	94	1060500A	135
5.1x51x86	1560510A	117	1060510A	163
5.2x51x86	1560520A	117	1060520A	163
5.3x51x86	1560530A	117	1060530A	163
5.4x59x93	1560540A	117	1060540A	163
5.5x59x93	1560550A	117	1060550A	163
5.6x59x93	1560560A	125	1060560A	212
5.7x59x93	1560570A	125	1060570A	212
5.8x59x93	1560580A	125	1060580A	212
5.9x59x93	1560590A	125	1060590A	212
6.0x59x93	1560600A	125	1060600A	212
6.1x62x101	1560610A	144	1060610A	238
6.2x62x101	1560620A	144	1060620A	238
6.3x62x101	1560630A	144	1060630A	238
6.4x62x101	1560640A	144	1060640A	238
6.5x62x101	1560650A	144	1060650A	238
6.6x62x101	1560660A	170	1060660A	278
6.7x62x101	1560670A	170	1060670A	278
6.8x68x109	1560680A	170	1060680A	278
6.9x68x109	1560690A	170	1060690A	278
7.0x68x109	1560700A	170	1060700A	278

D x Lc x L	156 HSS-PM	List	106 HSS-M42	List
7.1x68x109	1560710A	197	1060710A	305
7.2x68x109	1560720A	197	1060720A	305
7.3x68x109	1560730A	197	1060730A	305
7.4x68x109	1560740A	197	1060740A	305
7.5x68x109	1560750A	197	1060750A	305
7.6x74x117	1560760A	232	1060760A	331
7.7x74x117	1560770A	232	1060770A	331
7.8x74x117	1560780A	232	1060780A	331
7.9x74x117	1560790A	232	1060790A	331
8.0x74x117	1560800A	232	1060800A	331
8.1x74x117	1560810A	289	1060810A	379
8.2x74x117	1560820A	289	1060820A	379
8.3x74x117	1560830A	289	1060830A	379
8.4x74x117	1560840A	289	1060840A	379
8.5x74x117	1560850A	289	1060850A	379
8.6x80x125	1560860A	335	1060860A	405
8.7x80x125	1560870A	335	1060870A	405
8.8x80x125	1560880A	335	1060880A	405
8.9x80x125	1560890A	335	1060890A	405
9.0x80x125	1560900A	335	1060900A	405
9.1x80x125	1560910A	346	1060910A	468
9.2x80x125	1560920A	346	1060920A	468
9.3x80x125	1560930A	346	1060930A	468
9.4x80x125	1560940A	346	1060940A	468
9.5x80x125	1560950A	346	1060950A	468
9.6x86x133	1560960A	378	1060960A	518
9.7x86x133	1560970A	378	1060970A	518
9.8x86x133	1560980A	378	1060980A	518
9.9x86x133	1560990A	378	1060990A	518
10.0x86x133	1561000A	378	1061000A	518
10.1x86x133	1561010A	411	1061010A	594
10.2x86x133	1561020A	411	1061020A	594
10.3x86x133	1561030A	411	1061030A	594
10.4x86x133	1561040A	411	1061040A	594
10.5x86x133	1561050A	411	1061050A	594
10.6x86x133	1561060A	445	1061060A	683
10.7x93x142	1561070A	445	1061070A	683
10.8x93x142	1561080A	445	1061080A	683
10.9x93x142	1561090A	445	1061090A	683
11.0x93x142	1561100A	445	1061100A	683
11.1x93x142	1561110A	500	1061110A	758
11.2x93x142	1561120A	500	1061120A	758
11.3x93x142	1561130A	500	1061130A	758
11.4x93x142	1561140A	500	1061140A	758
11.5x93x142	1561150A	500	1061150A	758
11.6x93x142	1561160A	531	1061160A	847
11.7x93x142	1561170A	531	1061170A	847
11.8x93x142	1561180A	531	1061180A	847
11.9x100x151	1561190A	531	1061190A	847
12.0x100x151	1561200A	531	1061200A	847
12.1x100x151	1561210A	585	1061210A	897
12.2x100x151	1561220A	585	1061220A	897
12.3x100x151	1561230A	585	1061230A	897
12.4x100x151	1561240A	585	1061240A	897
12.5x100x151	1561250A	585	1061250A	897
12.6x100x151	1561260A	689	1061260A	961
12.7x100x151	1561270A	689	1061270A	961
12.8x100x151	1561280A	689	1061280A	961
12.9x100x151	1561290A	689	1061290A	961
13.0x100x151	1561300A	689	1061300A	961

* 1.0-3.0 มม. มี Step ขนาด 0.05 มิลลิเมตร (1.05, 1.15, 1.25, ... ถึง 2.95 มม.)

HSS POWDER METAL

Taper shank drill <Roll forged>

สว่านไฮสปีดพาวเดอร์ เมทัล รอลด์ฟอร์จ HSS ปกติหลายเท่าตัว



157 Application
Economical type HSS-PM drill
for general use

HSS
PMNon
Coat

123

h8

P M K N H
42HRC



Code	D x Lc x L x S	List
1570800	8.0x65x156-MT1	730
1570810	8.1x65x156-MT1	790
1570820	8.2x65x156-MT1	790
1570830	8.3x65x156-MT1	790
1570840	8.4x65x156-MT1	790
1570850	8.5x65x156-MT1	790
1570860	8.6x71x162-MT1	790
1570870	8.7x71x162-MT1	790
1570880	8.8x71x162-MT1	790
1570890	8.9x71x162-MT1	790
1570900	9.0x71x162-MT1	790
1570910	9.1x71x162-MT1	790
1570920	9.2x71x162-MT1	790
1570930	9.3x71x162-MT1	790
1570940	9.4x71x162-MT1	790
1570950	9.5x71x162-MT1	790
1570960	9.6x77x168-MT1	790
1570970	9.7x77x168-MT1	790
1570980	9.8x77x168-MT1	790
1570990	9.9x77x168-MT1	790
1571000	10.0x77x168-MT1	790
1571010	10.1x77x168-MT1	820
1571020	10.2x77x168-MT1	820
1571030	10.3x77x168-MT1	820
1571040	10.4x77x168-MT1	820
1571050	10.5x77x168-MT1	820
1571060	10.6x84x175-MT1	820
1571070	10.7x84x175-MT1	820
1571080	10.8x84x175-MT1	820
1571090	10.9x84x175-MT1	820
1571100	11.0x84x175-MT1	820
1571110	11.1x84x175-MT1	820
1571120	11.2x84x175-MT1	820
1571130	11.3x84x175-MT1	820
1571140	11.4x84x175-MT1	820
1571150	11.5x84x175-MT1	820
1571160	11.6x91x182-MT1	820
1571170	11.7x91x182-MT1	820
1571180	11.8x91x182-MT1	820
1571190	11.9x91x182-MT1	820
1571200	12.0x91x182-MT1	850
1571210	12.1x91x182-MT1	850
1571220	12.2x91x182-MT1	850
1571230	12.3x91x182-MT1	850
1571240	12.4x91x182-MT1	850
1571250	12.5x91x182-MT1	850
1571260	12.6x91x182-MT1	850
1571270	12.7x91x182-MT1	850
1571280	12.8x91x182-MT1	850
1571290	12.9x91x182-MT1	850
1571300	13.0x91x182-MT1	920
1571310	13.1x91x182-MT1	920
1571320	13.2x91x182-MT1	920
1571330	13.3x98x189-MT1	920
1571340	13.4x98x189-MT1	920
1571350	13.5x98x189-MT1	920
1571360	13.6x98x189-MT1	920
1571370	13.7x98x189-MT1	920
1571380	13.8x98x189-MT1	920
1571390	13.9x98x189-MT1	920

Code	D x Lc x L x S	List
1571400	14.0x104x212-MT2	1,090
1571410	14.1x104x212-MT2	1,090
1571420	14.2x104x212-MT2	1,090
1571430	14.3x104x212-MT2	1,090
1571440	14.4x104x212-MT2	1,090
1571450	14.5x104x212-MT2	1,090
1571460	14.6x104x212-MT2	1,090
1571470	14.7x104x212-MT2	1,090
1571480	14.8x104x212-MT2	1,090
1571490	14.9x104x212-MT2	1,090
1571500	15.0x110x218-MT2	1,090
1571510	15.1x110x218-MT2	1,150
1571520	15.2x110x218-MT2	1,150
1571530	15.3x110x218-MT2	1,150
1571540	15.4x110x218-MT2	1,150
1571550	15.5x110x218-MT2	1,150
1571560	15.6x110x218-MT2	1,280
1571570	15.7x110x218-MT2	1,280
1571580	15.8x110x218-MT2	1,280
1571590	15.9x110x218-MT2	1,280
1571600	16.0x110x218-MT2	1,280
1571610	16.1x115x223-MT2	1,350
1571620	16.2x115x223-MT2	1,350
1571630	16.3x115x223-MT2	1,350
1571640	16.4x115x223-MT2	1,350
1571650	16.5x115x223-MT2	1,350
1571660	16.6x115x223-MT2	1,350
1571670	16.7x115x223-MT2	1,350
1571680	16.8x115x223-MT2	1,350
1571690	16.9x115x223-MT2	1,350
1571700	17.0x115x223-MT2	1,395
1571710	17.1x120x228-MT2	1,395
1571720	17.2x120x228-MT2	1,395
1571730	17.3x120x228-MT2	1,395
1571740	17.4x120x228-MT2	1,395
1571750	17.5x120x228-MT2	1,395
1571760	17.6x120x228-MT2	1,395
1571770	17.7x120x228-MT2	1,395
1571780	17.8x120x228-MT2	1,395
1571790	17.9x120x228-MT2	1,395
1571800	18.0x120x228-MT2	1,530
1571810	18.1x125x233-MT2	1,530
1571820	18.2x125x233-MT2	1,530
1571830	18.3x125x233-MT2	1,530
1571840	18.4x125x233-MT2	1,530
1571850	18.5x125x233-MT2	1,530
1571860	18.6x125x233-MT2	1,530
1571870	18.7x125x233-MT2	1,530
1571880	18.8x125x233-MT2	1,530
1571890	18.9x125x233-MT2	1,530
1571900	19.0x125x233-MT2	1,620
1571910	19.1x130x238-MT2	1,620
1571920	19.2x130x238-MT2	1,620
1571930	19.3x130x238-MT2	1,620
1571940	19.4x130x238-MT2	1,620
1571950	19.5x130x238-MT2	1,620
1571960	19.6x130x238-MT2	1,620
1571970	19.7x130x238-MT2	1,620
1571980	19.8x130x238-MT2	1,620
1571990	19.9x130x238-MT2	1,620

Code	D x Lc x L x S	List
1572000	20.0x130x238-MT2	1,830
1572050	20.5x135x243-MT2	1,830
1572100	21.0x135x243-MT2	1,950
1572150	21.5x140x248-MT2	1,950
1572200	22.0x140x248-MT2	2,040
1572250	22.5x145x253-MT2	2,040
1572300	23.0x145x253-MT2	2,250
1572350	23.5x145x276-MT3	2,990
1572400	24.0x150x281-MT3	2,990
1572450	24.5x150x281-MT3	2,990
1572500	25.0x150x281-MT3	3,150
1572550	25.5x155x286-MT3	3,150
1572600	26.0x155x286-MT3	3,825
1572650	26.5x155x286-MT3	3,825
1572700	27.0x160x291-MT3	4,035
1572750	27.5x160x291-MT3	4,035
1572800	28.0x160x291-MT3	4,150
1572850	28.5x165x296-MT3	4,150
1572900	29.0x165x296-MT3	4,698
1572950	29.5x165x296-MT3	4,698
1573000	30.0x165x296-MT3	5,550

* 20.0-30.0 มม. มี Step ขนาด 0.1 มิลลิเมตร
(20.1 , 20.2 , 20.3 ... 29.9 มม.)



E-catalog

Drills / Countersink

Reduce shank drill - TiN Coating M35 HSS Co5% ดอกสว่านโคบอลต์ทึบ

S 12.7mm



140 Application

Fixed shank 12.7mm and precision ground suitable for drilling on all type of machines



Code	D x Lc x L x S12.7	List
1401300A	13.0x76.2x152.4	760
1401350A	13.5x76.2x152.4	790
1401400A	14.0x76.2x152.4	820
1401450A	14.5x76.2x152.4	850
1401500A	15.0x76.2x152.4	920
1401550A	15.5x76.2x152.4	950
1401600A	16.0x76.2x152.4	990
1401650A	16.5x76.2x152.4	1020
1401700A	17.0x76.2x152.4	1090
1401750A	17.5x76.2x152.4	1120
1401800A	18.0x76.2x152.4	1180
1401850A	18.5x76.2x152.4	1210
1401900A	19.0x76.2x152.4	1320
1401950A	19.5x76.2x152.4	1380
1402000A	20.0x76.2x152.4	1420
1402050A	20.5x76.2x152.4	1490
1402100A	21.0x76.2x152.4	1550
1402150A	21.5x76.2x152.4	1620
1402200A	22.0x76.2x152.4	1680
1402250A	22.5x76.2x152.4	1740
1402300A	23.0x76.2x152.4	1840
1402350A	23.5x76.2x152.4	1900
1402400A	24.0x76.2x152.4	1990
1402450A	24.5x76.2x152.4	2070
1402500A	25.0x76.2x152.4	2120
1402550A	25.5x76.2x152.4	2520
1402600A	26.0x76.2x152.4	2570
1402650A	26.5x76.2x152.4	2730
1402700A	27.0x76.2x152.4	2790
1402750A	27.5x76.2x152.4	2850
1402800A	28.0x76.2x152.4	2890
1402850A	28.5x76.2x152.4	3100
1402900A	29.0x76.2x152.4	3170
1402950A	29.5x76.2x152.4	3320
1403000A	30.0x76.2x152.4	3350

* 13-25 มม. มี Step ขนาด 0.1 สี่พิเศษ

Spot drill - TiN Coating M42 HSS Co8% ดอกนำศูนย์ 90 องศา



153 Application

Precision centered ground point give high accuracy of center hole



Code	D x Lc x L x S	List
1530300A	D3x12x46x3	250
1530400A	D4x12x55x4	280
1530500A	D5x15x60x5	310
1530600A	D6x20x66x6	360
1530800A	D8x25x79x8	510
1531000A	D10x25x89x10	630
1531200A	D12x20x102x12	950
1531400A	D14x35x115x14	1,380
1531600A	D16x35x115x16	1,680

Center drill <Form A 60degree> M35 HSS-EX Co 5% ดอกนำศูนย์ 60 องศา



010 Application

Ground from solid and relief ground spiral flute



Code	D x Lc x L x S	List
T010100A	D1.0x4x1x35mm	168
T010150A	D1.5x5x1.5x40mm	195
T010200A	D2.0x6x2x45mm	220
T010250A	D2.5x7.7x2.5x50mm	260
T010300A	D3.0x7.7x3x55mm	280
T010400A	D4.0x10x4.5x65mm	320
T010500A	D5.0x11x5.5x78mm	450

3F Countersink - TiAlN Coating M35 HSS Co5% ดอกเล้าเตอร์ซิงค์ 3 ฟัน



Three flute

35003 - 3F Application

Fully ground countersink for chatter free process. TiAlN coating for optimum tool life



Code	D x Lc x L x S	List
35003063	D6.3x8x45x5	350
35003083	D8.3x6x50x6	380
35003104	D10.4x7.1x50x6	550
35003124	D12.4x8x56x8	620
35003165	D16.5x10x60x10	730
35003205	D20.5x12.5x63x10	890
35003250	D25.0x15x67x10	1100
35003300	D30.0x18x71x12	1590
35003350	D35.0x21x82x12	1990
35003400	D40.0x23x92x12	2590
35003500	D50.0x28.5x100x12	3790

1F Countersink - TiAlN Coating M35 HSS Co5% ดอกเล้าเตอร์ซิงค์ 1 ฟัน



Single flute

35001 - 1F Application

Fully ground countersink for chatter free process. TiAlN coating for optimum tool life



Code	D x Lc x L x S	List
35001063	D6.3x8x45x5	350
35001083	D8.3x6x50x6	380
35001104	D10.4x7.1x50x6	550
35001124	D12.4x8x56x8	620
35001165	D16.5x10x60x10	730
35001205	D20.5x12.5x63x10	890
35001250	D25.0x15x67x10	1100
35001300	D30.0x18x71x12	1590
35001350	D35.0x21x82x12	1990
35001400	D40.0x23x92x12	2590
35001500	D50.0x28.5x100x12	3790

Endmills

Universal endmill HSS M35 Co5%



4 Flutes endmill

3044 Application

Finishing endmill for milling
on steel , non-ferrous and cast iron



ดอกเอ็นมิลโคบอลต์ 4 ฟัน

Code	Dia x Lc x Sh x L	List
3044F03001A	3x8xD6x52	200
3044F04001A	4x11xD6x55	220
3044F05001A	5x13xD6x57	230
3044F06001A	6x13xD6x57	240
3044F07001A	7x16xD8x66	340
3044F08001A	8x19xD8x69	380
3044F10001A	10x22xD10x72	450
3044F12001A	12x26xD12x83	580
3044F14001A	14x26xD12x83	790
3044F16001A	16x32xD16x92	900
3044F18001A	18x32xD16x92	1,090
3044F20001A	20x38xD20x104	1,590
3044F22001A	22x38xD20x104	1,920
3044F25001A	25x45xD25x121	2,130

3 Flutes endmill

3043 Application

Universal endmill for milling
on steel , non-ferrous and cast iron



ดอกเอ็นมิลโคบอลต์ 3 ฟัน

Code	Dia x Lc x Sh x L	List
3043F03001A	3x8xD6x52	200
3043F04001A	4x11xD6x55	220
3043F05001A	5x13xD6x57	230
3043F06001A	6x13xD6x57	240
3043F07001A	7x16xD8x66	340
3043F08001A	8x19xD8x69	380
3043F10001A	10x22xD10x72	450
3043F12001A	12x26xD12x83	580
3043F14001A	14x26xD12x83	790
3043F16001A	16x32xD16x92	900
3043F18001A	18x32xD16x92	1,090
3043F20001A	20x38xD20x104	1,590
3043F22001A	22x38xD20x104	1,920
3043F25001A	25x45xD25x121	2,130

2 Flutes endmill

3042 Application

Slotting endmill for milling
on steel , non-ferrous and cast iron



ดอกเอ็นมิลโคบอลต์ 2 ฟัน

Code	Dia x Lc x Sh x L	List
3042F03001A	3x8xD6x52	200
3042F04001A	4x11xD6x55	220
3042F05001A	5x13xD6x57	230
3042F06001A	6x13xD6x57	240
3042F07001A	7x16xD8x66	340
3042F08001A	8x19xD8x69	380
3042F10001A	10x22xD10x72	450
3042F12001A	12x26xD12x83	580
3042F14001A	14x26xD12x83	790
3042F16001A	16x32xD16x92	900
3042F18001A	18x32xD16x92	1,090
3042F20001A	20x38xD20x104	1,590
3042F22001A	22x38xD20x104	1,920
3042F25001A	25x45xD25x121	2,130

Roughing endmill HSS M42 Co8%



3054 Application

Roughing endmill with coarse
pitch chip-breaker for general use



ดอกเอ็นมิลโคบอลต์กัดหยาบ

Code	Dia x Lc x Sh x L	List
3054F06001A	6x15xD6x60	490
3054F08001A	8x20xD8x65	590
3054F10001A	10x25xD10x75	720
3054F12001A	12x30xD12x80	890
3054F14001A	14x35xD12x90	1,230
3054F16001A	16x40xD16x95	1,390
3054F18001A	18x40xD16x105	1,750
3054F20001A	20x45xD20x110	1,890
3055F22001A	22x45xD20x110 (5F)	2,390
3055F25001A	25x50xD25x120 (5F)	2,950

POT Pointed tap - TiN HSS POWDER METAL M3

ดอกตีรูตรง HSS-PM รุ่น Eco



232 Application

Economy grade HSS-PM pointed tap with TiN use for through hole application



Code	M x Pitch	List
23203050CA	M3x0.5	265
23204070CA	M4x0.7	265
23205080CA	M5x0.8	265
23206100CA	M6x1.0	275
23208125CA	M8x1.25	378
23210150CA	M10x1.5	540
23212175CA	M12x1.75	750

SFT Spiral tap -TiN HSS POWDER METAL M3

ดอกตีรูเกลียว HSS-PM รุ่น Eco



237 Application

Economy grade HSS-PM spiral tap with TiN use for blind and through hole application



Code	M x Pitch	List
23703050CA	M3x0.5	298
23704070CA	M4x0.7	298
23705080CA	M5x0.8	298
23706100CA	M6x1.0	318
23708125CA	M8x1.25	430
23710150CA	M10x1.5	570
23712175CA	M12x1.75	750

POT Pointed tap HSS POWDER METAL 330

ดอกตีรูตรง HSS-PM รุ่น Universal



281 Application

Universal grade HSS-PM Pointed tap use for through hole application



Code	M x Pitch	List
28101025CA	M1.0x0.25	1,190
28112025CA	M1.2x0.25	1,190
28114030CA	M1.4x0.3	1,090
28116035CA	M1.6x0.35	1,065
28102040CA	M2x0.4	790
28125045CA	M2.5x0.45	670
28103050CA	M3x0.5	395
28135060CA	M3.5x0.6	395
28104070CA	M4x0.7	395
28105080CA	M5x0.8	395
28106100CA	M6x1.0	410
28108125CA	M8x1.25	570
28110150CA	M10x1.5	725
28112175CA	M12x1.75	995
28114200CA	M14x2	1190
28116200CA	M16x2	1390

Fine pitch

28103035FA	M3x0.35	420
28104050FA	M4x0.5	420
28105050FA	M5x0.5	420
28106050FA	M6x0.5	430
28106075FA	M6x0.75	430
28108075FA	M8x0.75	595
28108100FA	M8x1.0	595
28110075FA	M10x0.75	760
28110100FA	M10x1.0	760
28110125FA	M10x1.25	760
28112100FA	M12x1.0	1160
28112125FA	M12x1.25	1160
28112150FA	M12x1.5	1160
28114100FA	M14x1.0	1270
28114150FA	M14x1.5	1270
28116100FA	M16x1.0	1470
28116150FA	M16x1.5	1470

INCH size

281U00540CA	No.5-40UNC	370
281U00632CA	No.6-32UNC	379
281U00832CA	No.8-32UNC	415
281U01024CA	No.10-24UNC	445
281U01224CA	No.12-24UNC	460
281U10420CA	1/4-20UNC	510
281U51618CA	5/16-18UNC	650
281U30816CA	3/8-16UNC	779
281U71614CA	7/16-14UNC	950
281U10213CA	1/2-13UNC	1197
281U91612CA	9/16-12UNC	1580
281U50811CA	5/8-11UNC	2340

SFT Spiral tap HSS POWDER METAL 330

ดอกตีรูเกลียว HSS-PM รุ่น Universal



282 Application

Universal grade HSS-PM Spiral tap use for through and blind hole application



Code	M x Pitch	List
28201025CA	M1.0x0.25	1,270
28212025CA	M1.2x0.25	1,270
28214030CA	M1.4x0.3	1,140
28216035CA	M1.6x0.35	1,120
28202040CA	M2x0.4	825
28225045CA	M2.5x0.45	690
28203050CA	M3x0.5	430
28235060CA	M3.5x0.6	430
28204070CA	M4x0.7	430
28205080CA	M5x0.8	430
28206100CA	M6x1.0	465
28208125CA	M8x1.25	630
28210150CA	M10x1.5	820
28212175CA	M12x1.75	1070
28214200CA	M14x2	1290
28216200CA	M16x2	1530

Fine pitch

28203035FA	M3x0.35	450
28204050FA	M4x0.5	450
28205050FA	M5x0.5	450
28206050FA	M6x0.5	485
28206075FA	M6x0.75	485
28208075FA	M8x0.75	660
28208100FA	M8x1.0	660
28210075FA	M10x0.75	870
28210100FA	M10x1.0	870
28210125FA	M10x1.25	870
28212100FA	M12x1.0	1150
28212125FA	M12x1.25	1150
28212150FA	M12x1.5	1150
28214100FA	M14x1.0	1360
28214150FA	M14x1.5	1360
28216100FA	M16x1.0	1620
28216150FA	M16x1.5	1620

INCH size

282U00540CA	No.5-40UNC	370
282U00632CA	No.6-32UNC	379
282U00832CA	No.8-32UNC	415
282U01024CA	No.10-24UNC	445
282U01224CA	No.12-24UNC	460
282U10420CA	1/4-20UNC	510
282U51618CA	5/16-18UNC	650
282U30816CA	3/8-16UNC	779
282U71614CA	7/16-14UNC	950
282U10213CA	1/2-13UNC	1197
282U91612CA	9/16-12UNC	1580
282U50811CA	5/8-11UNC	2340

* 282S M3-M12 รุ่นคมสั้น ช่วยเพิ่มความเร็วในการทำการงาน

POT Pointed tap - AlCrN HSS POWDER METAL 638

ดอกตีปรองตรง HSS-PM รุ่น Performance



256 Application

High performance HSS-PM Pointed tap with AlCrN coating to increase tool life



Code	M x Pitch	List
25601025CA	M1.0X0.25	1230
25612025CA	M1.2X0.25	1230
25614030CA	M1.4X0.3	1120
25616035CA	M1.6X0.35	1085
25602040CA	M2X0.4	910
25625045CA	M2.5x0.45	695
25603050CA	M3x0.5	545
25635060CA	M3.5x0.6	595
25604070CA	M4x0.7	640
25605080CA	M5x0.8	698
25606100CA	M6x1.0	780
25608125CA	M8x1.25	1070
25610150CA	M10x1.5	1450
25612175CA	M12x1.75	2030
25614200CA	M14x2	2130
25616200CA	M16x2	2650

Fine pitch

25603035FA	M3x0.35	620
25604050FA	M4x0.5	670
25605050FA	M5x0.5	730
25606050FA	M6x0.5	820
25606075FA	M6x0.75	820
25608075FA	M8x0.75	1150
25608100FA	M8x1.0	1150
25610075FA	M10x0.75	1530
25610100FA	M10x1.0	1530
25610125FA	M10x1.25	1530
25612100FA	M12x1.0	2130
25612125FA	M12x1.25	2130
25612150FA	M12x1.5	2130
25614100FA	M14x1.0	2250
25614150FA	M14x1.5	2250
25616100FA	M16x1.0	2790
25616150FA	M16x1.5	2790

SFT Spiral tap - AlCrN HSS POWDER METAL 638

ดอกตีปรองเกลียว HSS-PM รุ่น Performance



257 Application

High performance HSS-PM Spiral tap with AlCrN coating to increase tool life



Code	M x Pitch	List
25701025CA	M1.0X0.25	1310
25712025CA	M1.2X0.25	1310
25714030CA	M1.4X0.3	1180
25716035CA	M1.6X0.35	1160
25702040CA	M2X0.4	870
25725045CA	M2.5x0.45	740
25703050CA	M3x0.5	545
25735060CA	M3.5x0.6	595
25704070CA	M4x0.7	640
25705080CA	M5x0.8	698
25706100CA	M6x1.0	790
25708125CA	M8x1.25	1070
25710150CA	M10x1.5	1450
25712175CA	M12x1.75	2080
25714200CA	M14x2	2130
25716200CA	M16x2	2780

Fine pitch

25703035FA	M3x0.35	620
25704050FA	M4x0.5	670
25705050FA	M5x0.5	730
25706050FA	M6x0.5	820
25706075FA	M6x0.75	820
25708075FA	M8x0.75	1150
25708100FA	M8x1.0	1150
25710075FA	M10x0.75	1530
25710100FA	M10x1.0	1530
25710125FA	M10x1.25	1530
25712100FA	M12x1.0	2180
25712125FA	M12x1.25	2180
25712150FA	M12x1.5	2180
25714100FA	M14x1.0	2250
25714150FA	M14x1.5	2250
25716100FA	M16x1.0	2890
25716150FA	M16x1.5	2890

SFT Stainless tap - TiCN HSS POWDER METAL 638

ดอกตีปรองเกลียว HSS-PM งานสแตนเลส



289 Application

High performance HSS-PM Spiral tap specially design for stainless steel



Code	M x Pitch	List
28903050CA	M3x0.5	430
28935060CA	M3.5x0.6	460
28904070CA	M4x0.7	495
28905080CA	M5x0.8	550
28906100CA	M6x1.0	620
28908125CA	M8x1.25	850
28910150CA	M10x1.5	1100
28912175CA	M12x1.75	1490
28914200CA	M14x2	1990
28916200CA	M16x2	2950

NRT-Forming tap - TiN HSS POWDER METAL 638

ดอกตีปรองเกลียว HSS-PM



286 Through hole use



287 Blind hole use

HSS-PM Forming tap with TiCN coating



Code	M x Pitch x L	List
28(6/7)01025CA	M1x0.25x34	545
28(6/7)12025CA	M1.2x0.25x34	595
28(6/7)14030CA	M1.4x0.3x40	545
28(6/7)16035CA	M1.6x0.35x40	595
28(6/7)02040CA	M2x0.4x40	640
28(6/7)25045CA	M2.5x0.45x49	698
28(6/7)03050CA	M3x0.5x50	545
28(6/7)35060CA	M3.5x0.6x52	595
28(6/7)04070CA	M4x0.7x56	640
28(6/7)05080CA	M5x0.8x65	698
28(6/7)06100CA	M6x1.0x68	790
28(6/7)08125CA	M8x1.25x70	1070
28(6/7)0150CA	M10x1.5x75	1450
28(6/7)12175CA	M12x1.75x82	2080

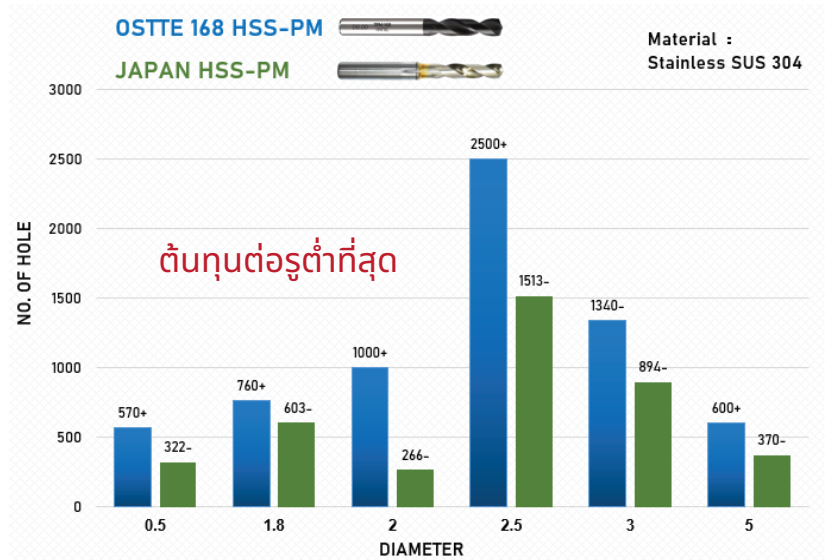
OSTTE 168 HSS-PM Drill



PM DRILL

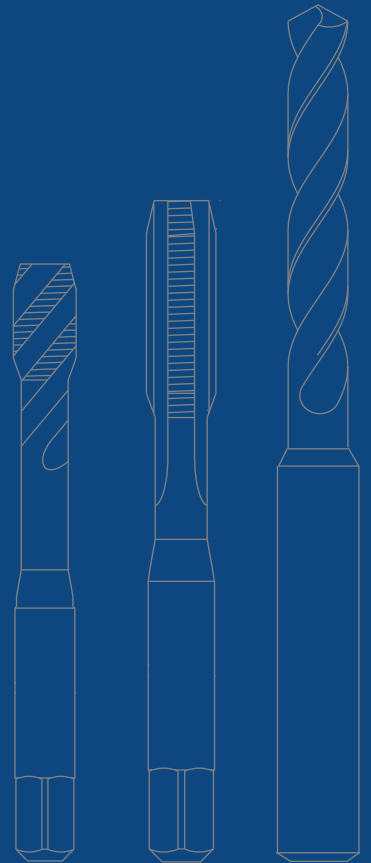
cost efficient solution

TG uses self-produced third-generation powder metallurgy high-speed steel. The composition and structure of the steel are fine and uniform, it has better bending strength and fatigue resistance enable higher cutting speed and long tool life



OSTTE

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By TG International