

奥凯彤新材料有限公司

Aokai Tong New Material Co., Ltd



来自制造商钻孔和埋头孔工具

Manufacturer of drilling and countersinking tools

适用于几乎所有材料和应用的钻头和埋头孔

Drills and countersinks for nearly all materials and applications

最好的质量具有非常令人满意的使用效果

The best quality has a very satisfactory use effect

conical countersink 90° solid carbide 90°实心硬质合金锥形埋头孔倒角刀

application:

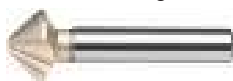
for 90° screw head countersinking or deburring holes.

应用作用：
用于90°螺钉头沉孔或去毛刺孔。

advantage:

- very wide range
- many shaft designs and shapes
- very long service life through high-quality solid carbide cutting material

优点：
范围很广
许多沙的设计和形状
高品质硬质合金切削材料，使用寿命长



		P 700 N/mm ²	P 1000 N/mm ²	P 1300 N/mm ²	M	N	K	S	H	H 65HRC	
11501705-724	Conical countersink, 90°, solid carbide, triple extremely uneven pitch For universal use up to 60 HRC 锥形埋头孔, 90°, 三重硬质合金, 极不均匀的齿高适用于高达60HRC	●	●	●	●	●	●	○	○	○	
11500230-285	Conical countersink, 90°, solid carbide, multi-flute cutter For universal use up to 60 HRC 锥形埋头孔, 90°, 整体硬质合金, 多槽铣刀 通用, 硬度可达60 HRC	●	●	●	●	●	●	○			
11535	Conical countersink, 90°, solid carbide, multi-flute cutter For universal use up to 60 HRC 锥形埋头孔, 90°, 整体硬质合金, 多槽铣刀 通用, 硬度可达60 HRC	●	●	●	●	○	○	○	○	○	
11536	Conical countersink, 90°, solid carbide, multi-flute universal use up to 60 HRC 锥形埋头孔, 90°, 整体式, 硬质合金, 多槽通用, 硬度可达60 HRC	●	●	●	●	○	○	○	○	○	

conical countersink 90° HSS 高品质硬质合金切削材料，使用寿命长

application:

for 90° screw head countersinking or deburring holes.

应用：
用于90°螺钉头埋头或去毛刺锥形埋头孔 90° HSS

advantage:

- very wide range
- many cutting materials available
- many shaft designs and shapes

范围非常广泛：
多种切削材料可供选择多种设计和形状



		P 700 N/mm ²	P 1000 N/mm ²	P 1300 N/mm ²	M	N	K	S	H	H 65HRC	
11500006-138	Conical countersink 90° HSS, three-edge For universal use up to 1000 N/mm ² 锥形埋头孔 90° HSS, 三刃 通用, 最高可达 1000 N/mm ²	●	○	○		●	○				
11500601-648	Conical countersink 90° HSS-TiAlN, three-edge For universal use up to 1000 N/mm ² 锥形埋头孔 90° HSS-TiAlN, 三刃 通用, 最高可达 1000 N/mm ²	●	○	○	●	●	○		○		
11501006-138	90° conical countersink HSS, triple cutter for universal use up to 1000 N/mm ² 90° 锥形埋头孔, 高速钢, 三重铣刀, 通用, 最高可达 1000 N/mm ²	●	○	○		●	○				
11501146-218	Conical countersink, 90°, HSSE-TiN, triple cutter for universal use up to 1000 N/mm ² 锥形埋头孔, 90°, HSSE-TiN, 三重铣刀, 通用, 最高可达 1000 N/mm ²	●	○	○		●	○				
11501800-825	Conical countersink, 90°, HSSE-TiN, triple cutter for universal use up to 1000 N/mm ² 锥形埋头孔, 90°, HSSE-TiN, 三重铣刀, 通用, 最高可达 1000 N/mm ²	●	○	○		●	○				
11501826-853	Conical countersink, 90°, HSS TiAlN, triple-edge cutter For universal use up to 1000 N/mm ² 锥形埋头孔, 90°, HSS TiAlN, 三刃铣刀 通用最高可达 1000 N/mm ²	●	○	○		●	○				
11501637-661	Conical countersink 90° HSS, triple cutter, extremely uneven pitch for universal use up to 1000 N/mm ² 锥形埋头孔, 90°, 高速钢, 三重刀具, 极不均匀齿距, 通用, 最高可达 1000 N/mm ²	●	●	●	●	○	○		○		

		P 700 N/mm ²	P 1000 N/mm ²	P 1300 N/mm ²	M	N	K	S	H	H 65HRC	
11500698-750	90° conical countersink, HSSE, triple cutter for universal use up to 1300 N/mm 90° 锥形埋头钻, HSSE, 三重铣刀通用, 最高可达 1300 Nmm	●	●	○	●	●	○	○			
11501506-561	90° conical countersink HSS triple cutter with 3-edge shank for universal use up to 1000 N/mm ² 90° 锥形埋头 HSS 三重铣刀, 带 3 刃刀柄, 通用, 抗拉强度可达 1000 N/mm ²	●	○	○		●	○				
11501300-455	HSS, triple cutter, ex90° conical countersinktra-long for universal use up to 1000 N/mm ² HSS, 三重铣刀, ex90°锥形埋头孔超长, 通用, 最高可达 1000 N/mm ²	●	○	○		○	○				
11492	Conical countersink, 90°, HSS, with bit holderFor universal use up to 1000 N/mm 锥形埋头孔, 90°, 高速钢, 带钻头支架通用, 最高可达 1000 N/mm	●	●	○		●	○				
11531	Conical countersink, 90°, HSSE, multi-flutecutter For universal use up to 1300N/mm 锥形埋头孔, 90°, HSSE, 多槽铣刀, 通用, 最高可达 1300 N/mm	●	●	●	●	○	○	●			
11516010-050	Conical countersink, 90°, HSSE-TiN, single-bladed cutter for universal use up to 1300 N/mm ² 锥形埋头钻, 90°, HSSE-TiN, 通用单刃铣刀最高可达 1300 N/mm ²	●	●	○	●	●	○				
11515210-230	Conical countersink, 90° HSSEextra-long single flute cutter For universal use up to 1300 N/mm 锥形埋头孔 90° HSSE超长单槽铣刀通用, 最高可达 1300 N/mm	●	●	○	●	●	○				



conical countersink 60° solid carbide 锥形埋头钻 60° 整体硬质合金

for 60° screw head countersinking or deburring holes .

应用：用于 60° 螺钉头埋头孔或去毛刺孔。

- very wide range
- many shaft designs and shapes
- very long service life through high-quality solid carbide cutting material

范围很广

多种设计和形状

采用优质硬质合金切削材料，使用寿命极长

advantages of conical countersink 60° solid carbide
three-edge universal up to 1300 N/mm²

优点：锥形埋头孔 60° 整体硬质合金，三刃通用，最高可达 1300 N/mm²

范围非常广泛 多种设计 形状采用优质整体硬质合金切削材料，使用寿命非常长



		P 700 N/mm ²	P 1000 N/mm ²	P 1300 N/mm ²	M	N	K	S	H	H 65HRC		page
11498308-325	advantages of conical countersink 60° solid carbide three-edge universal up to 1300 N/mm ² 优点：锥形埋头孔 60° 整体硬质合金，三刃通用，最高可达 1300 N/mm ² 范围非常广泛 多种设计 形状采用优质整体硬质合金切削材料，使用寿命非常长	●	●	●	●	●	●	○				133
11498226-263	HSS, triple cutter 60° conical countersink, for universal use up to 1000 N/mm ² HSS, 三刃 60° 锥形埋头孔, 用于通用高达 1000 N/mm ²	●	●	○		●	●					136

conical countersink 60° HSS / HSSE 锥形埋头孔 60° HSS/HSSE

for 60° screw head countersinking or deburring holes.

应用程序：

用于 60° 螺钉头沉孔或去毛刺孔。

advantage:

- very wide range
- many cutting materials available
- many shaft designs and shapes

优点：

范围很广

多种切削材料可供选择，多种设计和形状



		P 700 N/mm ²	P 1000 N/mm ²	P 1300 N/mm ²	M	N	K	S	H	H 65HRC		page
11498206-225	Conical countersink 60° HSS-TiN, three-edge For N/mm ² universal use up to 1000 N/mm ² 锥形埋头孔 60° 高速钢 TiN, 三边 N/mm ² 通用 高达 1000 N/mm ²	●	○	○		●	○					134
11495308-320	Conical countersink, 60° HSS, multi-flute cutter For universal use up to 1000 N/mm ² 锥形埋头孔, 60° 高速钢, 多槽铣刀 适用于高达 1000 N/mm ²	●	○	○		○	○					135
11495330-360	Conical countersink, 60° HSS, multi-flute cutter For universal use up to 1000 N/mm ² 锥形埋头孔, 60° HSS, 多槽铣刀 通用, 最高可达 1000 N/mm ²	●	○	○		○	○					135-136
11498226-263	60° conical countersink HSS, triple cutter for universal use up to 1000 N/mm ² 60° 锥形埋头孔, 高速钢, 三槽铣刀, 通用, 最高可达 1000 N/mm ²	●	●	○		●	●					136
11497405-430	Conical countersink, 60° HSSE, single-bladed cutter For universal use up to 1300 N/mm ² 锥形埋头孔, 60°, 高速钢, 单刃铣刀 通用, 最高可达 1300 N/mm ²	●	●	○		●	○					136

conical countersink HSS 75°锥形埋头孔HSS 75°

application:

for 75° screw head countersinking or deburring holes.

应用程序：
用于75°螺钉头沉孔或去毛刺孔。



HSS

		P 700 N/mm ²	P 1000 N/mm ²	P 1300 N/mm ²	M	N	K	S	H	H 65HRC		
11499008-025	Conical countersink 75°HSS, three-edge For universal use up to 1000 N/mm 锥形埋头孔75°高速钢，三边通用高达1000 N/mm ²	●	○	○		●	○					

conical countersink HSS 120°锥形埋头孔HSS 120°

application:

for 120° screw head countersinking or deburring holes.

应用程序：
用于120°螺钉头沉孔或去毛刺孔。



HSS

		P 700 N/mm ²	P 1000 N/mm ²	P 1300 N/mm ²	M	N	K	S	H	H 65HRC		
11502106-126	120° conical countersink, HSS, triple cutter for universal use up to 1000 N/mm ² 20°锥形埋头孔，高速钢，三刀通用高达1000 N/mm ²	●	○	○		●	○					
11502231-250	Conical countersink 120° HSS, three-edge For universal use up to 1000 N/mm ² 锥形埋头孔120° HSS，三边通用高达1000 N/mm ²	●	○	○		●	○					



Conical countersink 90 solid HSS/ carbide 实心HSS/ 硬质合金锥形埋头孔90°

Application:

for 90° screw head countersinking or deburring holes.

应用程序：
用于90°螺钉头沉孔或去毛刺孔。

Advantage:

- very wide range
- many shaft designs and shapes
- very long service life through high-quality solid carbide cutting material

优点：
范围很广
许多多的设计和形状
高品质硬质合金切削材料，使用寿命长



SC 90° conical countersink, three flutes, extremely uneven pitch

For universal use up to 60 HRC

SC 90°锥形埋头孔，三槽，极不均匀螺距
适用于高达60 HRC的通用



Application:

For producing 90° counterbores

应用用于制90°沉头孔

Execution:

profile-ground triple-edge countersink with radial relief

制造：带径向浮雕的精细研磨三边埋头孔

Advantage:

- Solid carbide cutting material for high service life requirements
- Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces
- radial relief ensures optimum chip breaking

优点：
高使用寿命要求的硬质合金切削材料
不均匀的螺距可确保表面无颤振痕迹，并最大限度地减少切削力
径向卸荷确保最佳断屑



Optimised sinking

① Standard countersink

② EUC speed

优化沉孔
① 标准埋头孔
② EUC 速度

Argument no. 3:
Extremely variable pitch
参数3 极小的变距

Application	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas-tics 塑料	Graphite 石墨	GG(G) 灰铸铁	Titan-alloy 钛合金	Nickel-alloy 镍合金	Hard mat. 硬度	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11501705-724	60	50	40	30	30	60	80	70	70	70	70	70	25	45	15	20	12	8

					Surface f steel 1300 (mm/U)
mm	mm	mm	mm	mm	
6.3	1.5	5	45	0.06	
8.3	2	6	50	0.08	
10.4	2.5	6	50	0.08	
12.4	2.8	8	56	0.08	
16.5	3.2	10	60	0.10	
20.5	3.5	10	63	0.14	
25	3.8	10	67	0.18	
31	4.2	12	71	0.18	

Solid carbide 90° conical countersink, three-flute cutter

for universal use up to 1300 N/mm

整体硬质合金 90° 锥形埋头钻，三槽铣刀通用²，最高可达 1300 N/mm²



Application:

For producing 90° counterbores up to 1300 N/mm

应用：用于生产高达1300 N/mm²的90°沉头孔

Execution:

profile-ground triple-edge countersink with radial relief

制造：带径向的可磨三边埋头孔

Advantage:

- radial relief ensures optimum chip breaking
- solid carbide cutting material for high service life requirements

辐射状的径向卸荷确保最佳断屑，整体硬质合金切削材料，满足高使用寿命要求

Notes:

Diameter 6-8.3 mm = solid carbide Diameter 10-31 mm = solid carbide head and steel shank
直径 6-8.3 毫米 = 整体硬质合金 直径 10-31 毫米 = 整体硬质合金头和钢柄



Application应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas-tics 塑料	Graphite 石墨	GG(G) 灰铸铁	Titan-alloy 钛合金	Nickel-alloy 镍合金	Hard mat. 硬度	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11500230-285	60	45	20	20	15	80	150	120	100	80	60	60		40	20	20		

Countersinking tools 埋头孔工具

				钢 f steel 1300 ● (mm/U)
6	2.0	5	40	0.06
6.3	2.0	5	40	0.06
8	2	6	45	0.06
8.3	2	6	45	0.08
10	2.5	8	46	0.08
10.4	2.5	8	46	0.09
11.5	2.8	8	56	0.1
12.4	2.8	8	56	0.1
15	3.2	10	60	0.12
16.5	3.2	10	60	0.12
20.5	3.5	10	63	0.13
25	3.8	10	67	0.14
31	4.2	12	71	0.16

Solid carbide 90° conical countersink, three-flute cutter for universal use up to 1300 N/mm²

整体硬质合金 90° 锥形埋头钻, 三槽铣刀
通用, 最高可达 1300 N/mm



Application:

For producing 90° counterbores up to 1000 N/mm

应用: 用于生产高达 1000 N/mm² 的 90° 沉头孔

Execution:

profile-ground three-edge countersink with straight cutting edge

制造: 带直刃的轮廓磨削三刃埋头钻

Advantage:

- precision grinding for high dimensional accuracy requirements
- Solid carbide cutting material for high service life requirements

优势:
精密磨削, 尺寸精度高
整体硬质合金切削材料, 满足高服务寿命要求



Application应用	Steel (N/mm²) 铁			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas tics 塑料	Graphite G(C)FK 石墨	GG(G) GjMW	Titan- 钛合金	Nickel- 镍合金	Hard mat. 硬度	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11500231-286	60	45	20	20	15	80	150	120	100	80	60	60		40	20	20		

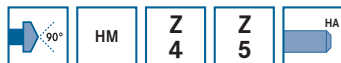
				Surface f steel 1300 ● (mm/U)
6	1.5	6	45	0.06
6.3	1.5	6	45	0.06
8	2	6	50	0.08
8.3	2	6	50	0.08
10	2.5	6	50	0.09
10.4	2.5	6	50	0.09
11.5	2.8	8	56	0.1
12.4	2.8	8	56	0.1
15	3.2	10	60	0.12
16.5	3.2	10	60	0.12
20.5	3.5	10	63	0.13
25	3.8	10	67	0.14
31	4.2	12	71	0.16

Conical countersink, 90°, solid carbide, multi-flute cutter

For universal use up to 60 HRC

锥形埋头孔, 90°, 整体硬质合金多槽

刀具适用于 63 HRC 的通用



Application:

For countersinking 90° in the material groups steel, stainless steel, (non-ferrous metals), (cast materials) and special alloys up to a strength of 63 HRC.

用途:
用于钢, 不锈钢, 有色合金。(铸造材料)
和特殊合金等材料组进行 90° 沉头加工, 强度最高可达 63 HRC。

Execution:

profile-ground multi-edge countersink with radial relief
带径向凹槽的轮廓磨削多刃埋头孔

Advantage:

Very good service life, chrome-cobalt alloys, inconel, nickel-titanium alloys, hastelloy, manganese-hardened steel, hardened steel up to 60 HRC, titanium and titanium alloys. Innovative patented tool geometry, a large number of tools ensure excellent cutting performance and good surface quality

优点:
很好使用寿命, 铬钴合金, 铬镍铁合金, 镍钛合金, 哈氏合金, 锰硬化钢、硬度高达 60 HRC 的硬化钢、钛和钛合金材料
创新的专利刀具几何形状, 大量刀具确保卓越的切割效果性能和良好的表面质量



Application应用	Steel (N/mm²) 铁			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas tics 塑料	Graphite G(C)FK 石墨	GG(G) GjMW	Titan- 钛合金	Nickel- 镍合金	Hard mat. 硬度	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11535	60	50	30	20	15	120	150	100	90	90	70			4	20	20	10	7

				Number of cutting edges (PCS) 切削次数边缘	f steel 钢 1300 ● (mm/)
10.4	4	46	8	4	0.04
12.4	4	56	8	5	0.05
16.5	4.5	60	10	5	0.06
20.5	5	63	10	5	0.08
25	5.5	67	10	5	0.09
31	6	71	12	5	0.1



Solid carbide 90° conical countersink, multi-flute cutt

For universal use up to 60 HRC 硬质合金90°锥形埋头孔, 刀具适用于高60 HRC的通用



创新的专利刀具几何形状大量刀具确保卓越的切割效果
性能和良好的表面质量

- innovative and patented cutter geometry with a large number of cutters ensures excellent cutting performance and good surface qualities

mm	mm	mm		五个切削刃 Number of cutting edges (PCS)	钢 fsteel 1300 (mm/U)
31	6	108	MK 2	5	0.1
40	14	137	MK 3	5	0.12
50	18	147	MK 3	5	0.14

Prod. Gr. 114

Application应用	Steel (N/mm ²) 铁			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas-tics 塑料	Graphite G(C)FK 石墨	GG(G) GJMW	Titan 钛合金	Nickel- 镍合金	Hard mat. 硬度	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11536	60	50	30	20	15	120	150	100	90	90	70			4	20	20	10	7

conical countersink 90° HSS 90° 高速钢锥形埋头孔

application:

for 90° screw head countersinking or deburring holes. 应用程序：用于
90° 螺钉头沉孔或去毛刺90° 高速钢90° 锥形埋头孔洞

优点：
范围很广
多种切削材料可供选择
许多shaft设计和形状

advantage:

- very wide range
- many cutting materials available
- many shaft designs and shapes



HSS 90° conical countersinks (DIN 335)

For universal use

HSS 90° 锥形埋头孔 (DIN 335) 通用



Application:

For producing 90° counterbores up to 1000 N/mm².应用：用于生产高达1000 N/mm²的90°沉头孔

Execution:

profile-ground triple-edge countersink with radial relief 执行：带刃
径突出的精细研磨三边埋头孔钻

Advantage:

radial relief ensures optimum chip breaking

No. 11500 601-11500 648: TiNAlOX coating for increased service life requirements

优点：刃径向角确保最佳断屑

编号11500 601-11500 648：TiNAlOX涂层，用于提高使用寿命要

Number 11501 826-11501 853: TiAlN coating for improving service life requirements

编号11501 826-11501 853：提高使用寿命要求的TiAlN涂层

No. 11500 006-11500 138, 11501
006-11501 138
HSSNo. 11500 601-11500 648
HSS TiNAlOXNo. 11501 146-11501 825
HSS-TiN

No. 11501 826-11501 853

Application应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas-tics 塑料	Graphite G(C)FK 石墨	GG(G) GJMW	Titan 钛合金	Nickel- 镍合金	Hard mat. 硬度	
No.	<700	<1000	<1300	smarten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11500006-138	30	20	10	8		40	70	60	50	40	30	30		15				
11500601-648	30	20	10	10	8	40	70	60	50	40	30	30		15	8		20	
11501006-138	30	20	10	8		40	70	60	50	40	30	30		15				
11501146-218	30	20	10	10		40	70	60	50	40	30	30		15	8			
11501800-825	30	20	10	8		40	70	60	50	40	30	30		15				
11501826-853	30	20	10	8		40	70	60	50	40	30	30		15				

HSS 90° conical countersink set (DIN 335)

For universal use

HSS 90°锥形埋头孔套件 (DIN 335) 通用



Application:

For producing 90° counterbores up to 1000 N/mm².应用：用于生产高达1000 N/mm²的90°沉头孔

Advantage:

radial relief ensures optimum chip breaking

.No. 020: TiN coating for increased requirements in service life

.No. 030: TiAlN coating for increased requirements in service life

优点：

刃径向角确保最佳断屑

020号：TiN涂层，提高使用寿命要求

030: TiAlN涂层，提高了使用寿命要求刃径向角确保最佳断屑

Execution:

profile-ground triple-edge countersink with radial relief

制造：带刃径突出的精磨三边埋头孔钻

Application应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite (C)FK 石墨	GG(G) GJMW	Titan- 钛合金	Nickel- 镍合金	Hard mat. <55 HRC <65 HRC	
No.	<700	<1000	<1300	marten.	austen. 奥氏体	short	long	short	long	short	long							
11512011	30	20	10	8		40	70	60	50	40	30	30		15				
11512015	30	20	10	8		40	70	60	50	40	30	30		15				
11512020	30	20	10	8		40	70	60	50	40	30	30		15				
11512025	30	20	10	8		40	70	60	50	40	30	30		15				
11512030	30	20	10	8		40	70	60	50	40	30	30		15				

Cutting material 切削材料		HSS 高速钢		HSS 高速钢		HSS 高速钢		HSS 高速钢		HSS 高速钢	
Surface 表面		Uncoated 无涂层		Uncoated 无涂层		TiN		TiN		TiAlN	
Composition of set 集合的组成	Number of pieces in assortment/set (PCS) 商品数量	11512... Ident. No.		11512... Ident. No.		11512... Ident. No.		11512... Ident. No.		11512... Ident. No.	
4.3/5.0/6.0/6.3/7.0/8.0/8.3/10.0/10.4/11.5/12.4/15.0/16.5/19.0/20.5/23.0/25.0	17	011	●	015	●	020	●	025	●	030	●

HSS 90° conical countersink, three flutes, extremely uneven pitch (DIN 335) for universal use up to 1000 N/mm

HSS 90°锥形埋头孔钻，三槽，极不均匀螺距 (DIN 335) 适用于高达1000 N/mm的通用



Application:

For producing 90° counterbores up to 1000 N/mm².应用：用于生产高达1000 N/mm²的90°沉头孔

▪ profile-ground triple-edge countersink with radial

relief, with extremely uneven pitch

带刃径突出的精磨三边埋头孔钻，极不均匀螺距

Advantage:

▪ radial relief ensures optimum chip breaking

▪ Uneven pitch ensures excellent surfaces without chatter marks and minimisation of cutting forces

优点：

刃径确保最佳断屑不均匀的间距确保了出色的表面，而不会颤振痕迹和切削力最小化



Argument no. 3: 参数

Extremely variable pitch 极小的变距和间距

Optimised sinking
420m.o.y.=15m/min, f=0.15
420m.o.y.=15米/分钟, f=0.15

① Standard countersink

② EUC speed

优化下

① 标准埋头孔钻

② EUC速度

Application应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite (C)FK 石墨	GG(G) GJMW	Titan- 钛合金	Nickel- 镍合金	Hard mat. <55 HRC <65 HRC	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							
11501637-661	40	30	12	15	15	40	50	40	40	40	40	40		20	10		6	

Surface 表面					TiN/ZrN 涂层	
↓ mm	↓ mm	↓ mm	↓ mm	f steel 700 (mm/U)	11501... Ident. No.	
4.3	1.3	4	40	0.06	637	●
6	1.5	5	45	0.08	641	●
6.3	1.5	5	45	0.08	642	●
8	2	6	50	0.1	645	●
8.3	2	6	50	0.1	646	●
10	2.5	6	50	0.1	648	●
10.4	2.5	6	50	0.1	649	●
11.5	2.8	8	56	0.1	650	●

Surface 表面					TiN/ZrN 涂层	
↓ mm	↓ mm	↓ mm	↓ mm	f steel 700 (mm/U)	11501... Ident. No.	
12.4	2.8	8	56	0.1	651	●
15	3.2	10	60	0.12	653	●
16.5	3.2	10	60	0.12	654	●
19	3.5	10	63	0.14	655	●
20.5	3.5	10	63	0.18	656	●
23	3.8	10	67	0.18	657	●
25	3.8	10	67	0.18	658	●
31	4.2	12	71	0.22	661	●



HSS 90° conical countersink set, three flutes, extremely uneven pitch (DIN 335) for universal use up to 1000 N/mm²

HSS 90° 锥形埋头钻套件, 三刃, 极不均匀螺距 (DIN 335) 通用, 最高可达 1000 N/mm²

Application应用 No.	Steel (N/mm ²)钢			Stainless steel不锈钢		Alu铝		Brass黄铜		Bronze青铜		Plas-tics塑料	Graphite石墨	GG(G) GJMW	Titan-钛合金	Nickel-镍合金	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long	40	CJFK				<55 HRC	<65 HRC
115001637-661	40	30	12	15	15	40	50	40	40	40	40	40		20	10		6	

Composition of set组套装		Number of pieces in assortment/set (PCS)组合/套装中的件数		Cutting material切削材料 Surface表面	HSS TiN/ZrN
6.3/10.4/16.5/20.5/25		5			11501... Ident. No.
					662

HSSE 90° conical countersink, three-flute cutter (DIN 335) for universal use up to 1300 N/mm

HSS 90° 锥形埋头钻, 三槽铣刀 (DIN 335) 通用, 最高可达 1300 N/mm



Application:

For producing 90° counterbores up to 1300 N/mm²

应用: 用于生产抗拉强度高达 1300 N/mm² 的 90° 沉头孔钻

Execution:

profile-ground triple-edge countersink with radial relief

制造: 带刃径突出的精细研磨三边埋头孔钻

Advantage:

radial relief ensures optimum chip breaking

优点: 刃径向后角确保最佳断屑



Application应用 No.	Steel (N/mm ²)钢			Stainless steel不锈钢		Alu铝		Brass黄铜		Bronze青铜		Plas-tics塑料	Graphite石墨	GG(G) GJMW	Titan-钛合金	Nickel-镍合金	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long	30					<55 HRC	<65 HRC
11500698-750	40	30	12	10	8	40	70	60	50	40	30	30		15	10	10		

Surface表面						Uncoated无涂层		Surface表面						Uncoated无涂层	
f steel钢 1000 (mm/U)				Ident. No.				f steel钢 1000 (mm/U)				Ident. No.			
mm	mm	mm	mm					mm	mm	mm	mm				
4.3	1.3	4	40	0.07	698	●	●	10.4	2.5	6	50	0.12	722	●	●
5	1.5	4	40	0.07	699	●	●	11.5	2.8	8	56	0.13	723	●	●
5.3	1.5	4	40	0.07	700	●	●	12.4	2.8	8	56	0.13	725	●	●
6	1.5	5	45	0.08	702	●	●	15	3.2	10	60	0.14	730	●	●
6.3	1.5	5	45	0.08	705	●	●	16.5	3.2	10	60	0.14	735	●	●
7	1.8	6	50	0.09	706	●	●	19	3.5	10	63	0.15	736	●	●
8	2	6	50	0.1	710	●	●	20.5	3.5	10	63	0.16	740	●	●
8.3	2	6	50	0.1	712	●	●	23	3.8	10	67	0.17	741	●	●
9.4	2.2	6	50	0.11	715	●	●	25	3.8	10	67	0.18	745	●	●
10	2.5	6	50	0.12	720	●	●	31	4.2	12	71	0.21	750	●	●

HSS 90° conical countersink, three-flute cutter and shank with 3 flats for universal use up to 1000 N/mm²

HSS 90° 锥形埋头钻, 三槽铣刀和柄部带有3个平面通用性强. 最大 1000 N/mm



Application:

For producing 90° counterbores up to 1000 N/mm²

应用: 用于生产高达 1000 N/mm² 的 90° 沉头孔

Execution:

profile-ground triple-edge countersink with three-edge shank with radial relief

制造: 带刃径的三刃柄的精密三刃埋头孔钻

Advantage:

radial relief ensures optimum chip breaking

three-edge shank ensures excellent power transmission in the chuck

优点:

刃径向后角确保最佳断屑

三刃柄可确保卡盘中的出色动力传递



Application应用 No.	Steel (N/mm ²)铁			Stainless steel不锈钢		Alu铝		Brass黄铜		Bronze青铜		Plas-tics塑料	Graphite石墨	GG(G) GJMW	Titan-钛合金	Nickel-镍合金	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long	30					<55 HRC	<65 HRC
11501506-561	30	20	10	8		40	70	60	50	40	30	30		15	10	10		

Surface表面						Uncoated无涂层		Surface表面						Uncoated无涂层	
f steel钢 700 (mm/U)				Ident. No.				f steel钢 700 (mm/U)				Ident. No.			
mm	mm	mm	mm					mm	mm	mm	mm				
11.5	2.8	8	56	0.13	506	●	●	20.5	3.5	10	63	0.16	536	●	●
12.4	2.8	8	56	0.13	511	●	●	23	3.8	10	67	0.17	542	●	●
13.4	2.9	8	56	0.13	516	●	●	25	3.8	10	67	0.18	547	●	●
15	3.2	10	60	0.14	521	●	●	28	4	12	71	0.19	551	●	●
16.5	3.2	10	60	0.14	526	●	●	30	4.2	12	71	0.2	556	●	●
19	3.5	10	63	0.15	532	●	●	31	4.2	12	71	0.21	561	●	●

HSS 90° conical countersinks, extra-long

for universal use up to 1000 N/mm²
HSS 90°锥形埋头孔钻, 通用超长适用于高达 1000 N/mm²

**Application:**For producing deep-set 90° counterbores up to 1000N/mm²应用：用于生产高达90°的深孔,1000 N/mm²。**Execution:****445:** profile-ground extra-long triple-edge countersink

制造：专业研磨超长三边埋头孔

450-541: Profile-ground extra-long countersink

专业研磨超长三边埋头孔

Advantage:应用▪ **Ident. No. 300-445:**

- radial relief ensures optimum chip breaking
- deep-set countersinks are made easy for the user

▪ **Ident. No. 450-541:**

- Radial relief ensures optimum chip breaking
- Deep-set countersinks are made easy for the user

编号300-445：

径向减压确保最佳断屑深埋埋头孔便于用户使用

第450-541号：径向减压确保最佳断屑深埋埋头孔钻



Application应用 No.	Steel (N/mm ²) 铁			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas-tics 塑料	Graphite 石墨	GG(G) GJMW	Titan- 钛合金	Nickel- 镍合金	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11501506-561	30	20	10	10		40	70	60	50	40	30	30		15				

Cutting material					HSS	
					f steel 700 (mm/U)	Ident. No.
5.8	1.5	104	5	0.08	300	●
6.3	1.5	104	5	0.08	305	●
6.3	1.5	154	5	0.08	405	●
8.3	2	105	6	0.1	310	●
8.3	2	155	6	0.1	410	●
9.4	2.2	106	6	0.11	315	●
10.4	2.5	107	6	0.12	320	●
10.4	2.5	157	6	0.12	420	●
11.5	2.8	108	6	0.13	325	●
12.4	2.8	108	8	0.13	330	●
12.4	2.8	158	8	0.13	430	●

Cutting material 切割材料					HSS	
					f steel 700 (mm/U)	Ident. No.
15	3.2	109	10	0.14	435	●
15	3.2	159	10	0.14	340	●
16.5	3.2	111	10	0.14	440	●
16.5	3.2	161	10	0.14	445	●
16.5	3.2	261	10	0.14	541	●
20.5	3.5	114	10	0.16	345	●
20.5	3.5	164	10	0.16	445	●
25	3.8	118	10	0.18	350	●
25	3.8	168	10	0.18	450	●
31	4.2	140	12	0.21	450	●
31	4.2	190	12	0.21	355	●

HSSE 90° conical countersink sets, extra-long for universal use up to 1000 N/mm²

HSSE 90° 锥形埋头钻套件, 超长, 通用, 最高可达 1000 N/mm²

**Advantage:**

Hexagonal shank, 1/4 " provides a user - friendly toolchuck in the bit holder

应用：刃径轮廓研磨

优点：六角柄, 1/4 " 在钻头支架中提供用户很好的工具夹头

**Application:**

For countersinking, chamfering and deburring. For use in hand-held bit holders, electric hand drills and electric screwdrivers.

用途：

用于沉头、倒角和去毛刺。适用于手持钻头、电动手钻和电动螺丝刀。

Application应用 No.	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas-tics 塑料	Graphite 石墨	GG(G) GJMW	Titan- 钛合金	Nickel- 镍合金	Hard mat.	
	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11492	●	●	○	○		●	●	●	●	●	●	●	○	○				

Suitable for screw thread 适用于螺纹	Spot-facer Ø (mm) 镗孔钻	Tip Ø (mm) 尖端	Shaft length (mm) 钻头长	Length (mm) 总长度	11492... Ident. No.
M3	6.3	1.5	20	31	063 ●
M4	8.3	2.0	20	31	083 ●
M5	10.4	2.5	20	34	104 ●

HSS 90° conical countersink set with bit holder for universal use up to 1000 N/mm²HSS 90° 锥形埋头钻套装, 带钻头支架通用, 最高可达 1000 N/mm²**Application:**

For countersinking, chamfering and deburring. For use in hand-held bit holders, electric hand drills and electric screwdrivers.

应用: 用于沉孔、倒角和去毛刺
用于手持式钻头架、手电钻和电动螺丝刀。

Execution:

- profile-ground

Advantage:

- Hexagonal shank, 1/4" provides a user-friendly chuck in the bit holder

制造:

刃径轮廓研磨

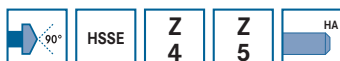
优点:

六角柄, 1/4" 为钻头夹持器提供用户很好的工具夹头

Composition of set 套装组合	1 each of countersink 各 1 个埋头孔 6.3/8.3/10.4/12.4/16.5/20.5	
Number of pieces in assortment set (PCS)	件数商品组合 (PCS) 6	

Application 应用	Steel 钢 <700		Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite 石墨	GG(G) GJM W	Titanium 钛合金	Nickel 镍合金	Hard mat.	
No. 11492	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
			○		●	●	●	●	●	●	●	○	○				

Conical countersink, 90°, HSSE, multi flute cutter for universal

90°锥形埋头孔HSSE多槽铣刀, 通用性高, 适用于硬度高达1300 N/mm²的材料**Application:**For producing 90° counterbores up to 1300 N/mm².

应用:
用于生产高达1300 N/mm²的90°沉头孔。

Execution:

- profile-ground triple-edge countersink with patented special grind

制造:
专业研磨三边埋头孔, 专业特殊研磨

Advantage:

- radial relief ensures optimum chip breaking
- innovative cutting geometry with greater number of cutters provides excellent cutting performance and good surface quality

优点:

刃径向角确保最佳断屑

创新的切削立体形状和更多的刀具有很出色的切削性能和良好的表面质量



Application 应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas- 塑料	Graphite 石墨	GG(G) GJM W	Titanium 钛合金	Nickel 镍合金	Hard mat.	
No. 11531	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
	35	25	15	12	10	40	70	60	50	40	30			20	12	12		

↓ mm	↓ mm	↓ mm	↓ mm	Number of cutting edges (PCS) 切削刃数量		11531... Ident. No.
10.4	4	50	6	4		104 ●
12.4	4	56	8	5		124 ●
16.5	4.5	60	10	5		165 ●
20.5	5	63	10	5		205 ●
25	5.5	67	10	5		250 ●
31	6	71	12	5		310 ●

SS 90° conical countersink, multi-flute cutter (DIN 335) for universal use u

HSS 90° 锥形埋头孔, 多刃铣刀 (DIN 335), 通用, 抗拉强度可达 1000 N/mm²**Application:**For producing 90° counterbores up to 1000 N/mm².

应用:
用于生产高达1000 N/mm²的90°沉头孔

Execution:

profile-ground multi-edge countersink with straight cutting edge

制造: 带直边的预磨多刃埋头孔切削刃

Advantage:

- high number of cutting edges for quiet cutting performance
- very good cutting performance and surface quality (chatter-free)
大量切削刃, 实现安静切削演出
非常好的切削性能和表面质量
优点: 无毛刺光洁度好



↓ mm	↓ mm	↓ mm	↓ mm	Number of cutting edges (PCS) 套数量	f steel 700 (mm/U)	11495... Ident. No.
8	1.5	48	8	5	0.1	408 ●
12.5	2	48	8	5	0.13	412 ●
16	3.2	56	10	7	0.14	416 ●
20	5	60	10	7	0.16	420 ●

Prod. Gr. 1EB

Application 应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas- 塑料	Graphite 石墨	GG(G) GJM W	Titanium 钛合金	Nickel 镍合金	Hard mat.	
No. 11495408-420	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
	30	20	10	10	15	40	70	40	40	60	60	30		20	20	20		

HSS 90° conical countersink, three-way cutter (DIN 335)

HSS90° 锥形埋头钻, 三向铣刀 (DIN 335)

For universal use 通用



Execution:

- profile-ground triple-edge countersink with radial relief
- 制造: 研磨三边埋头孔, 带刃径型状向后角



Application:

Ident. No. 312-373, 382-393, 402-403, 412-413, 422-423, 432-433, 442-443: For producing 90° counterbores up to 1000 N/mm².

应用: 用于生产 90° 沉头孔, 抗拉强度最高可达 1000 N/mm².

Ident. No. 381, 401, 411, 421, 431, 441: For producing 90° counterbores up to 1300 N/mm².

制造: 用于生产 90° 沉头孔, 抗拉强度高达 1300 N/mm².

Advantage:

- radial relief ensures optimum chip breaking
- 优点: 三刃埋头孔刃径向后角刀面确保最佳断屑

Application 应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite G(C)FK 石墨	GG(G) GJM W	Titanium alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11500312-442	30	20	10	10		40	70	60	50	40	30	30		15				
11500353-443	30	20	10	10		40	70	60	50	40	30	30		15				
11500381-441	40	30	15	10	8	40	70	60	50	40	30	30		25	10	10		

cut the material 切削材料				f steel 钢 700 (mm/U)	11500... Ident. No. HSS	11500... Ident. No. HSS	11500... Ident. No. HSS
mm	mm	mm	M				
1	3.2	85	M 1	0.14	312	●	
16.5/20	3.2	85	M 1	0.14			
5	3.5	100	MK 2	0.16	337	●	-
25	3.8	106	MK 2	0.18	352	●	353
28	4	112	MK 2	0.19	367	●	-
30	4.2	112	MK 2	0.2	372	●	373
31	4.2	112	MK 2	0.21	382	●	383
34	4.5	118	MK 2	0.22	392	●	393
37	4.8	118	MK 2	0.24	402	●	403
40	10	140	MK 3	0.25	412	●	413
50	14	150	MK 3	0.28	422	●	423
63	16	80	MK 4	0.33	432	●	433

HSSE 90° conical countersink, multi-flute cutter

For universal use up to 50 HRC

HSS90° 锥形埋头钻, 多刃铣刀, 通用硬度高达 50 HRC



Advantage:

- innovative and patented cutter geometry with a large number of cutters ensures excellent cutting performance and good surface qualities
- 优点: 具有大量刀具的创新和专利刀具几何形状可确保出色的切削性能和良好的表面质量



Application:

For producing 90° counterbores up to 60 HRC

应用: 用于生产硬度高达 60 HRC 的 90° 沉头孔。

Execution:

profile-ground multi-edge countersink with radial relief on the cutter

制造: 带刃径向后角的精细研磨多刃埋头孔钻, 消除切割器上的阻滞

mm	mm	mm	MK	Number of cutting edges (PCS) 组套数	11532... Ident. No.
31	6	111	MK 2	5	310
40	10	140	MK 3	5	400

Prod. Gr. 1EB

Application 应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite G(C)FK 石墨	GG(G) GJM W	Titanium alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11532	35	25	15	12	10	40	70	60	50	40	30			20	12	12		

conical countersink, multi-flute cutter (DIN 335) for universal use up to 1

HSS 90°锥形埋头孔, 多刃刀具 (DIN 335), 通用性高达1000 N/mm²

**Application:**

For producing 90° counterbores up to 1000 N/mm

应用: 用于生产高达1000 N/mm的90°沉头孔

Execution:

Ident. No. 605 – 651: profile-ground single-edge countersink with radial relief

Ident. No. 905 – 951: profile-ground single-edge countersink

制造:

编号605 – 651: 带径向浮雕的预磨单边埋头孔

编号905 – 951: 预磨单边埋头孔

Advantage:

High quality cutting edges provide excellent cutting performance and surface quality (without chatter)

优点: 高品质的切削刃提供卓越的切削性能和表面质量 (无颤振)



Application应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite 石墨		Titanium alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11495430-470	30	20	10	10		40	70	60	50	40	30	30						
	mm		mm		mm		mm		mm		mm		mm		mm		mm	
25			7		118		MK 2		9		0.18		430		●			
31.5			9		122		MK 2		9		0.21		440		●			
40			12		150		MK 3		11		0.25		450		●			
50			16		155		MK 3		13		0.28		460		●			
63			20		185		MK 4		15		0.33		470		●			

HSS 90°conical countersink and deburring tool for universal use up to 1000 N/mm

HSS 90°锥形埋头孔钻通用去毛刺工具, 最大1000 N/mm²

**Application:**For producing 60° counterbores up to 1300 N/mm².应用: 用于生产高达1300 N/mm²的60°沉头孔。

▪ Ident. No. 605 – 651: profile-ground single-edge countersink with radial relief
 型状研磨单刃带径向凹槽的埋头孔

▪ Ident. No. 905 – 951: profile-ground single-edge countersink
 型状研磨单刃埋头孔

型状研磨单刃埋头孔

Advantage:

radial relief ensures optimum chip breaking

deep and wide flute provides optimum chip removal

Ident. No. 605 – 651: special geometry ensures

vibration-free and accurate countersinking with high finish quality 优点:

径向后角确保最佳断屑效果

深而宽的槽口提供最佳的排屑效果

编号605 – 651: 特殊几何形状确保无振动、精确的沉头加工, 且表面质量高



Application应用	Steel (N/mm ²) 钢			stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite 石墨	GG(G) GJMW	Titanium alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<	<	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11497605-651	30	20	10	8	7	40	70	50	40	35	30	30		15	8			
11497905-951	30	20	10	8	7	40	70	50	40	35	30	30		15	8			
	mm		mm		mm		mm		mm		mm		mm		mm		mm	
5			1-5 mm		5		50		0.07		605		905		●			
10			1-10 mm		10		60		0.12		610		910		●			
15			2-15 mm		10		65		0.14		615		915		●			
20			2-20 mm		10		73		0.16		620		920		●			
25			2-25 mm		10		80		0.18		625		925		●			
30			3-30 mm		12		82		0.2		630		930		●			
40			3-40 mm		15		92		0.25		640		940		●			
40			3-40 mm		12		92		0.25		641		941		●			
50			3-50 mm		15		100		0.28		650		950		●			
50			3-50 mm		12		100		0.30		651		951		●			

HSS 90° conical countersinks with slanted hole for universal use up to 1300 N/mm²

HSS90° 锥形埋头钻，带斜孔通用，最高可达 1300 N/mm

**Application:**For producing 90° counterbores up to 1300 N/mm²**应用：**用于生产抗拉强度高达 1300 N/mm² 的 90° 沉头孔。**Execution:**

profile-ground single-edge countersink with slanted hole

制造：

带斜孔的轮廓磨削单刃埋头钻

Advantage:

- slanted continuous hole improves chip removal
- No. 11516:** TiN coating for increased requirements in service life

- No. 11516 010, 11516 020, 11516 030, 11516 040, 11516 050:** precision grinding for the most demanding requirements in terms of dimensional accuracy

优点：

倾斜的连续孔可提高排屑效果

编号 11516：TiN 涂层可提高使用寿命

编号 11516 010、11516 020、11516 030、11516 040、11516 050：精密磨削，可满足最严格的尺寸精度要求

No. 11515
HSSENo. 11516
HSSE, TiN-coated

Application应用	Steel钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas- tics 塑料	Graphit G(C)FK 石墨	GG(G) GjM W	Titan alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11515010-050	30	20	10	8	7	40	70	60	50	40	30	30		15	8			30
11515015-055	30	20	10	8	7	40	70	60	50	40	30	30		15	8			
11516010-050	30	20	10	8	7	40	70	60	50	40	30	30		15	8			
11516015-055	30	20	10	8	7	40	70	60	50	40	30	30		15	8			

Surface 表面					Uncoated 未涂层		Uncoated 未涂层		TiN		TiN	
 mm	Min./max. cutting edge Ø	 mm	 mm	f steel 700 (mm/U)	11515... Ident. No.		11515... Ident. No.		11516... Ident. No.		11516... Ident. No.	
10	2-5 mm	6	45	0.12	010	●	015	●	010	●	015	●
14	5-10 mm	6	56	0.13	020	●	025	●	020	●	025	●
21	10-15 mm	10	67	0.16	030	●	035	●	030	●	035	●
28	15-20 mm	12	90	0.19	040	●	045	●	040	●	045	●
35	20-25 mm	15	106	0.23	050	●	055	●	050	●	055	●

90° conical countersink set with slanted hole for universal use up to 1300 N/mm²90° 锥形埋头钻套件，带斜孔通用，最高可达 1300 N/mm²**Application:**For producing 90° counterbores up to 1300 N/mm².**用途：**用于生产 90° 沉头孔，抗拉强度最高可达 1300 N/mm²**Execution:**

- profile-ground single-edge countersink with slanted hole

带斜孔的型状磨削单刃

Advantage:

- slanted continuous hole improves chip removal

倾斜性的延伸的孔提高了切屑去除率

Surface表面光亮		Uncoated未涂层		Uncoated未涂层		TiN		TiN	
Composition of set 组合套件	Min./max. cutting 最小/最大 Ø	11517... Ident. No.	11517... Ident. No.	11517... Ident. No.	11517... Ident. No.	11518... Ident. No.	11518... Ident. No.	11518... Ident. No.	11518... Ident. No.
1 each of countersink 10/14/21/28	2-20 mm	010	●	015	●	010	●	015	●

Application应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plas- tics 塑料	Graphit G(C)FK 石墨	GG(G) GjM W	Titan alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11517010	30	20	10	8	7	40	70	60	50	40	30	30		15	8			
11517015	30	20	10	8	7	40	70	60	50	40	30	30		15	8			
11518010	30	20	10	8	7	40	70	60	50	40	30	30		15	8			
11518015	30	20	10	8	7	40	70	60	50	40	30	30		15	8			

HSS90° conical countersink, extra long for universal use up to 1300 N/mm²

HSS 90°锥形埋头孔，超长通用，最高可达 1300 N/mm²

**Application:**

For producing 90° counterbores up to 1300 N/mm².

应用：

用于生产高达 1300 N/mm² 的 90° 沉头孔

Execution:

Ident. No. 210-230: profile-ground single-edge countersink, straight shank length 60 mm

型号：

Ident. No. 210-230：型状研磨单刃

埋头孔，直柄长度 60 毫米

Ident. No. 310-330: profile-ground single-edge countersink with slanted bore, straight shank length 120 mm
专业磨削单边直柄斜孔埋头孔长度120毫米

Advantage:

slanted continuous hole improves chip removal

deep-set countersinks are made easy for the user

优点：倾斜的连续孔可提高切屑去除率

深凹型埋头孔使用起来很方便



Ident. No. 210-230



Ident. No. 310-330

Application 应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite 石墨	GG(G) GJM W	Titanium alloy 钛合金	Nickel alloy 镍合金	Hard mat. 硬质合金	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11515210-230	30	20	10	8	7	40	70	60	50	40	30	30		15	8			
11515310-330	30	20	10	8	7	40	70	60	50	40	30	30		15	8			

mm	Min./max. cutting edge Ø 最小/最大切削尺寸 Ø	mm	mm	Shaft length (mm)		f steel 1000 ● (mm/U)		60		120	
				Ident. No.		Ident. No.					
10	2-5 mm	6	76	0.12	210	●	-	-	-	-	-
10	2-5 mm	6	136	0.12	-	-	310	●	-	-	-
14	5-10 mm	6	86	0.13	220	●	-	-	-	-	-
14	5-10 mm	6	146	0.13	-	-	320	●	-	-	-
21	10-15 mm	10	96	0.16	230	●	-	-	-	-	-
21	10-15 mm	10	156	0.16	-	-	330	●	-	-	-

conical countersink 60° solid carbide 锥形埋头孔60°硬质合金

application:

for 60° screw head countersinking or deburring hole

应用：用于60°螺钉头沉孔或去毛刺孔。

**advantage:**

very wide range

many shaft designs and shapes

very long service life through high-quality solid carbide cutting material

优点：

范围很广

许多shaft设计和形状

采用优质硬质合金切削材料，使用寿命极长



Solid carbide 60° conical countersink, three-flute cutter (DIN 334) for universal use up to 1300 N/mm²

整体硬质合金60°锥形埋头孔，三刃铣刀（DIN 334）适用于高达 1300 N/mm² 的通用

**Application:**

For producing 60° counterbores up to 1300 N/mm².

应用：用于生产高达1300 N/mm² 的60°沉头孔

Advantage:

radial relief ensures optimum chip breaking

优点：刃径向后角确保最好的断屑

**Execution:**

profile-ground triple-edge countersink with radial relief

制造：带刃径向后角精细研磨三边埋头孔

Application 应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite 石墨	GG(G) GJM W	Titanium alloy 钛合金	Nickel alloy 镍合金	Super alloy	Hard mat. 硬质合金	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11498308-325	60	45	20	20	15	80	150	120	100	80	60	60		40	20	20	20		

mm	mm	mm	mm	Surface f steel 1300 ● (mm/U)		Uncoated 未涂层 Ident. No.	
8	2	6	50	0.08	308	●	-
10	2.5	8	50	0.09	310	●	-
12.5	3.2	8	56	0.1	312	●	-
16	4	10	63	0.12	316	●	-
20	5	10	67	0.13	320	●	-
25	6.3	10	71	0.14	325	●	-



conical countersink 60° HSS 锥形埋头孔60°高速钢

application:

for 60° screw head countersinking or deburring holes.

应用：用于 60° 螺钉头埋头孔或去毛刺孔。



advantage:

- very wide range
- many cutting materials available
- many shaft designs and shapes

优点：
范围非常广泛
提供多种切割材料
多种设计和形状



HSS

HSSE

HSS 60° conical countersink, three-flute cutter

(DIN 334) for universal use up to 1000 N/mm²

HSS 60°锥形埋头孔，三槽铣刀 (DIN 334)

适用于高达 1000 N/mm² 的通用



Application:

For producing 60° counterbores up to 1000 N/mm²

应用：用于生产高达 1000 N 的 60° 沉头孔 / 用于生产高

1000 N/mm² N 的 60° 沉头孔 /

- Ident. No. 506-725: profile-ground triple-edge countersink with standard relief
- 506-725: 带标准凹槽的型状打磨和三刃埋头孔



Ident. No. 106-126, 506-525



Ident. No. 206-225, 706-725

Execution:

- Ident. No. 106-225: profile-ground triple-edge countersink with radial relief
- 型号：106-225：型状研磨三刃带刃径向凹槽的埋头孔

Advantage:

- radial relief ensures optimum chip breaking
- Ident. No. 706-725: TiN coating for increased service life requirements

优点：
刃径向后角刀面确保最佳断屑
706-725：TiN 涂层可满足更长的使用寿命要求

Application应用	Steel 钢(N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite G(C)FK 石墨	GG(G) GJM W	Titan alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11498106-126	30	20	10	8		40	70	60	50	40	30	30		15				
11498206-225	30	20	10	8		40	70	60	50	40	30	30		15				
11498506-525	30	20	10	8		40	70	60	50	40	30	30		15				
11498706-725	30	20	10	8		40	70	60	50	40	30	30		15				

mm	mm	mm	mm	Surface表面	Uncoated未涂层		TiN		Uncoated未涂层		TiN	
				f steel 700 (mm/U)	11498... Ident. No.		11498... Ident. No.		11498... Ident. No.		11498... Ident. No.	
6.3	1.6	5	45	0.08	106	•	206	•	506	•	706	•
8	2	6	50	0.1	108	•	208	•	508	•	708	•
10	2.5	6	50	0.12	110	•	210	•	510	•	710	•
12.5	3.2	8	56	0.13	112	•	212	•	512	•	712	•
16	4	10	63	0.14	117	•	216	•	516	•	716	•
20	5	10	67	0.16		•	220	•	520	•	720	•
25	6.3	10	71	0.18	126	•	225	•	525	•	725	•



HSS 60° conical countersink set, three-flute cutter

(DIN 334) for universal use up to 1000 N/mm²

HSSE 60° 锥形埋头钻套件，三槽铣刀 (DIN334)，通用，最高可达 1000 N/mm²



Application:

For producing 60° counterbores up to 1000 N/mm²

应用：用于生产 60° 沉头孔，抗拉强度最高可达 1000 N/mm²

Execution:

Ident. No. 900, 910, 920, 930: profile-ground triple-edge countersink with radial relief

900、910、920、930：型状研磨三刃埋头孔，带刃径凹槽

Ident. No. 905, 915, 925, 935: profile-ground triple-edge countersink with standard relief 带标准凹槽的三刃锥形埋头孔

Advantage:

- radial relief ensures optimum chip breaking 刃径向后角确保最佳断屑



Ident. No. 900-905, 920-925



Ident. No. 910-915, 930

Cutting material 切削材料		HSS	HSS	HSS	HSS
Surface 表面		Uncoated 未涂层	Uncoated 未涂层	TiN	TiN
Composition of set 集成尺寸12/PC		Number of piece assortment/set (PCS) 套零件	Ident. No.	Ident. No.	Ident. No.
8.0/10.0/12.5/16.0/20.0		5	900	905	910
6.3/8.0/10.0/12.5/16.0/20.0/25.0		7	920	925	930

Application 应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		plastic 塑料	Graphite 石墨	Titanium alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long					<55 HRC	<65 HRC
11498900	30	20	10	8		40	70	60	50	40	30	30		15			
11498905	30	20	10	8		40	70	60	50	40	30	30		15			
11498910	30	20	10	8		40	70	60	50	40	30	30		15			
11498915	30	20	10	8		40	70	60	50	40	30	30		15			
11498920	30	20	10	8		40	70	60	50	40	30	30		15			
11498925	30	20	10	8		40	70	60	50	40	30	30		15			
11498930	30	20	10	8		40	70	60	50	40	30	30		15			
		0	10	8		40	70	60	50	40	30	30		15			

HSS Conical countersink, 60°, multi-ute cutter DIN(334)

for universal use up to 1000 N/mm² HSS 锥形埋头钻，60°，多槽铣刀 DIN(334)通用，最高可达 1000 N/mm²



Application:

For producing 60° counterbores up to 1000 N/mm²

应用：用于生产 60° 沉头孔，抗拉强度高达 1000 N/mm²

Execution:

- profile-ground multi-edge countersink with straight cutting edge

制造：型状研磨多刃埋头孔，带直切削刃

Advantage:

- high number of cutting edges for quiet cutting performance
- very good cutting performance and surface quality (chatter-free)

优点：

切削刃数量多，切削安静

切削性能和表面质量极佳（无颤动）



	mm	mm	mm	mm	Number of cutting edges (PCS) 套零件数量	steel 钢 700 (mm/U)	Ident. No.
8	1.5	50	8	5	0.1	308	●
12.5	2	50	8	5	0.13	312	●
16	3.2	60	10	7	0.14	316	●
20	5	63	10	7	0.16	320	●

Application 应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite 石墨	GG(G) GJM W	Titan alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11495308-320	30	20	10	10		40	70	40	40	60	60	30		20				

Conical countersink, 60°, HSS, multi-flute cutter (DIN 334)

for universal use up to 1000 N/mm² 60° 锥形埋头钻，高速钢，多槽铣刀 (DIN 334)通用，最高可达 1000 N/mm²



Application:

For producing 60° counterbores up to 1000 N/mm²

用于生产抗拉强度高达 1000 N/mm² 的 60° 沉头孔

Execution:

- profile-ground multi-edge countersink with straight cutting edge

带直切削刃的型状研磨多刃埋头孔

Advantage:

- high number of cutting edges for quiet cutting performance
- very good cutting performance and surface quality (chatter-free)

优点：

切削刃数量多，切削安静

切削性能和表面质量极佳（无颤动）



Application 应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphite G(C)FK 石墨	GG(G) GJM W	Titan alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11495330-360	30	20	10	10		40	70	60	50	40	30	30		15				

				Number of cutting edges (PCS) 组套数量	f steel 2钢 700 ● (mm/U)	11495... Ident. No.	
25	7	125	MK 2	9	0.18	330	●
31.5	9	132	MK 2	9	0.21	340	●
40	12	160	MK 3	11	0.25	350	●
50	16	170	MK 3	13	0.28	360	●

HSSE 60° conical countersink, three-flute cutter (DIN 334)for universal use up to 1000 N/mm² HSSE 60°锥形埋头孔, 三槽铣刀 (DIN 334) 适用于高达1000 N/mm² 的通用**Advantage:**

- radial relief ensures optimum chip breaking
- 优点: 刃径向角确保最佳断屑

**Application:**

For producing 60° counterbores up to 1000 N/mm².
用于生产 60° 沉头孔, 抗拉强度高达 1000 N/mm²

Execution:

- profile-ground triple-edge countersink with radial relief
- 带刃径向凹槽的型状研磨三刃埋头孔

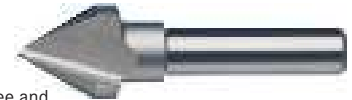
Application 应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphit 石墨	GG(G) GJM W	Titan alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
	<700	<1000	<1300					short	long	short	long							<55 HRC <65 HRC
				marten.	austen.	short	long											
11498216-263	30	20	10	10		40	70	60	50	40	30	30		15				

Cutting material 切削材料

				HSS f steel 钢 700 ● (mm)		Ident. No. 11498.	
25	6.3	112	MK 2	0.18	226	●	
31.5	10	118	MK 2	0.21	231	●	
40	12.5	150	MK 3	0.25	240	●	
50	16	160	MK 3	0.28	250	●	
63	20	190	MK 4	0.33	263	●	

HSS 60° conical countersink, single-flute cutterfor universal use up to 300 N/mm² HSS60° 锥形埋头孔, 单槽铣刀通用, 最高可达 300 N/mm²**Advantage:**

- radial relief ensures optimum chip breaking
- deep and wide flute provides optimum chip removal
- Ident. No. 405-430: special geometry ensures vibration-free and accurate countersinking with high finish quality
- 刃径向角确保最佳断屑效果
- 深而宽的槽口提供最佳的排屑效果
- 405-430 号特殊几何形状确保无振动、精确的沉头加工, 并具有高光洁度和高精加工质量

**Application:**

For producing 60° counterbores up to 1300 N/mm².
应用: 用于生产 60° 沉头孔, 最高可达 1300 N/mm²

Execution:

- profile-ground single-edge countersink
- 制造: 型状研磨单刃边埋头孔

Application 应用	Steel 钢 (N/mm ²)			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphit G(C)FK 石墨	GG(G) GJM W	Titan alloy 钛合金	Nickel alloy 镍合金	Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC <65 HRC
11497405-430	30	20	10	8		40	70	60	50	40	30	30		15	8			
11497705-730	30	20	10	8		40	70	60	50	40	30	30		15	8			

	Mn./max. cutting edge Ø 最小/最大切割			f steel 钢 1000 ● (mm/U)	11497... Ident. No.	11497... Ident. No.
5	1-5 mm	5	50	0.07	405	705
10	1-10 mm	10	60	0.12	410	710
15	2-15 mm	10	65	0.14	415	715
20	2-20 mm	10	73	0.16	420	720
25	2-25 mm	10	80	0.16	425	-
30	3-30 mm	12	82	0.2	430	730

conical countersink HSS 75°锥形埋头孔HSS 75°

application:

for 75° screw head countersinking or deburring holes.

应用：用于75°螺钉头埋头孔或去毛刺孔



HSS

HSS 75° conical countersink, three-flute cutter

for universal use up to 1000 N/mm² HSS 75° 锥形埋头孔，三槽铣刀一通用，最高可达 1000 N/mm²Application: For producing 75° counterbores up to 1000 N/mm².应用：用于生产抗拉强度高达 1000 N/mm² 的 75° 沉头孔。

Execution: profile-ground triple-edge countersink with radial relief

制造：带径向凹槽的轮廓研磨三刃埋头孔

Advantage:

radial relief ensures optimum chip breaking

优点：刃径向角确保最佳断屑效果



Application 应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphit G(C)FK 石墨	GG(G) GjM W	Titanium Alloy 钛合金	Nickel Alloy 镍合金	Hard mat. Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long						<55 HRC	<65 HRC
11499008-025	30	20	10	10		40	70	60	50	40	30	30		15				

					Surface f steel 700 ● (mm/U)	Uncoated Ident. No.
mm	mm	mm	mm	mm		
8	2	6	50	0.1	008	●
10	2.5	6	54	0.12	010	●
12.5	2.8	8	54	0.13	012	●
15	3.2	8	56	0.14	015	●
20	3.5	10	63	0.16	020	●
25	6.3	10	71	0.18	025	●

conical countersink HSS 120° 锥形埋头孔HSS 120°

application:

for 120° screw head countersinking or deburring holes.

用于 120° 螺钉头埋头孔或去毛刺孔。



HSS

HSS 120° conical countersinks

for universal use up to 1000 N/mm²

HSS 120° 锥形埋头孔

通用，最高可达 1000 N/mm²

Execution:

profile-ground triple-edge countersink with radial relief

带刃径向凹槽的型状研磨三刃埋头孔

Application:

For producing 120° counterbores up to 1000 N/mm².用于生产 120° 沉头孔，抗拉强度高达 1000 N/mm²

Advantage:

radial relief ensures optimum chip breaking

优点：刃径向角确保最佳断屑



Application 应用	Steel (N/mm ²) 钢			Stainless steel 不锈钢		Alu 铝		Brass 黄铜		Bronze 青铜		Plastics 塑料	Graphit G(C)FK 石墨	GG(G) GjM W	Titanium Alloy 钛合金	Nickel Alloy 镍合金	Super - alloy	Hard mat. Hard mat.	
No.	<700	<1000	<1300	marten.	austen.	short	long	short	long	short	long							<55 HRC	<65 HRC
11502106-126	30	20	10	10		40	70	60	50	40	30	30		15					
11502306-325	30	20	10	10		40	70	60	50	40	30	30		15					

					Surface表面	Uncoated未涂层		Uncoated未涂层	
				fsteel 钢700 ● (mm/U)	11502... Ident. No.		11502... Ident. No.		
6.3	1.5	6	49	0.1	106	●	306	●	
8	2	6	49	0.1	108	●	308	●	
12.5	2.8	8	54	0.13	112	●	312	●	
16	3.2	10	57	0.14	117	●	316	●	
20	3.5	10	59	0.16	120	●	320	●	
25	3.8	10	63	0.18	126	●	325	●	



Carbide and HSS Countersink 硬质合金和高速钢埋头孔钻

AkoTong produces countersink tools for carbide and HSS materials flexibly and precisely according to customer requirements. These tools are used to produce precise and high-quality cuts. These countersink tools are indispensable tools for manufacturers who need these tools for machining. Please contact us to jointly develop your individual tool solution. Our global sales address and contact details can be found at www.akotool.com. Our tool products are reliable, with close tolerances, and we can flexibly design the required tools according to customer requirements.

奥凯彤可根据客户要求灵活而精确地生产硬质合金和HSS材料埋头孔工具。这些刀具用于生产精确而且实现高质量切削。这些埋头孔工具是机械加工所需这类制造商使用的不可少的工具。

请联系我们，以便与我们共同开发您的个性化工具解决方案，我们的全球销售商地址和联系方式可在 www.akotool.com 上找到，我们刀具产品质量可靠，公差小，可以根据客户要求灵活设计所需要的刀具。

奥凯彤新材料有限公司

Aokai Tong New Material Co., Ltd.

*Add: No.101, Building A5, Small and Medium - sized
Enterprise Promotion Park, Huanghe North Road,
Tianyuan District, Zhuzhou City, Hunan Province, China*

Tel: 86 - 731 - 28835805

Fax: 86 - 731 - 22795610

Webpage: www.akotool.com

E - mail: grand@akotool.com