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BOEHLERIT**

复合材料和塑料行业内的 精密加工刀具 Precision Tools Composites & Plastics



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工程塑料与复合材料在工业产品制造上更广泛的应用是21世纪的关键新技术之一。主要需求来自航空航天与汽车工业，新兴高速发展的行业，如风电设备制造等也对工程塑料与复合材料(Composites & Plastics, C&P)的应用提出了新要求。

C&P的应用不仅是在原有的工艺中替代工件材料，而且形成了自身的设计，原材料与半成品；成品的粗精加工、修整及表面处理等完整工艺过程。

LMT集团已经有40多年开发C&P切削技术的历史。作为切削刀具的专家，LMT集团为客户提供适合应用和工件材料要求的刀具。并且秉承全球合作的传统，LMT集团已将旗下关于C&P材料的加工进行整合。

LMT集团能提供最广泛的面向C&P材料的加工刀具，例如面铣切削、成型铣削、锯切、铰削、雕刻、钻削与精孔加工等。

为了满足被加工材料多层次的技术需求，LMT在切削刀具材料方面提供一个很大的选择范围：无涂层的整体硬质合金、PVD与金刚石涂层、PCD或MCD金刚石等等。同时这个理念代表我们在应用方面，根据最新技术发展提供最高功效的支持。这个理念我们称为**COMPOSITES EXCELLENCE**。

LMT Tool Systems通过本刀具目录向您介绍C&P加工系统中最重要的标准刀具。

请体验LMT Tool Systems的**COMPOSITES EXCELLENCE**，以及利用我们的技术知识而优化您的生产流程。

我们很乐意为您提供咨询！
composites@lmt-tools.com
www.lmt-tools.com

LMT Tool Systems是业务权能网络Carbon Composites e.V.的会员
www.carbon-composites.eu

The use of plastic and composite materials has become one of the key technologies of the 21st century in manufacturing industrial products. Once again, Aerospace and Automotive Industry are in the role of the pacemakers but also many new branches like wind energy are contributing to a strongly increasing application of "Composites & Plastics" or simply "C & P".

One particular and common aspect of C & P technologies is the fact that they are not only replacing a workpiece material in an existing process but that they require their own, specific production processes from workpiece design, raw material and semi-manufactured parts up to moulding, trimming and surface finishing.

As a specialist for cutting and machining technologies, LMT group is dealing for more than 40 years with C & P technologies, developing customized solutions adapted to workpiece material and production processes. Following the motto "Networking the Experts", LMT Tool Systems has brought together its competences for C & P machining in the internationally oriented "Segment Composites & Plastics Machining".

LMT Tool Systems is providing the largest range of solutions for C & P machining with face milling, form and contour milling, sawing, chamfering or engraving up to drilling and borehole finish operations.

According to the variety of technical requirements, the offer of cutting materials is also covering the complete range from solid carbide, combinations with PVD or diamond coatings up to polycrystalline (PCD) or monocrystalline (MCD) diamond. Our claim is always to provide the best possible performance according to the state of technology. We have phrased this claim as **COMPOSITE EXCELLENCE**.

With the present catalogue, LMT Tool Systems is presenting you a choice of the most important standard tools for C & P machining applications.

We invite you to experience **COMPOSITE EXCELLENCE** with LMT Tool Systems and to exploit our know-how to achieve your optimum manufacturing process.

We will be pleased to advise you.
composites@lmt-tools.com
www.lmt-tools.com

LMT Tool Systems is member of the competence network Carbon Composites e. V.
www.carbon-composites.eu

图形概述 Overview Pictograms

 = 整体硬质合金
Solid carbide

 = 高速钢
High speed steel

 = 单晶金刚石
Monocrystalline diamond

 = 多晶金刚石
Polycrystalline diamond

 = 金刚石颗粒
Diamond grit

 = AlTiN涂层
AlTiN coating

 = 单刃
Single flute

 = 双刃
2 Flutes

 = 3刃
3 Flutes

 = 8刃
8 Flutes

 = 上切式(上排屑)
Upcut

 = 下切式(下排屑)
Downcut

 = 压迫铣削方式
Compression mill

 = 直槽
Straight fluted

 = 金刚石涂层
Diamond film coated

 = 内冷系统
Internal cooling system

 = 直柄h6
Straight shank h6

 = 仿形铣
Copy milling

 = 轮廓铣
Contour milling

 = 面铣
Surface milling

 = 槽铣
Slot milling

 = 圆角铣
Corner milling

 = 能插铣
Able to plunge

 = 盲孔和通孔
Blind and through hole

 = 高性能塑料
High Performance Plastics

 = 标准塑料
Standard Plastics

 = 超精表面
Superfinish surface

 = 蜂窝材料
Honeycomb

 = 增强纤维/石墨
Fiber-reinforced thermoset/graphite

 = 含增强纤维的热成型塑料
Fibre reinforced thermoplastics

 = 混合材料
Hybrid materials



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6	标准塑料 Standard plastics
7	高(强度)性能塑料 High performance plastics
8	含增强纤维的热成型塑料 Fiber reinforced thermoplastics
9	含增强纤维的热固塑料/石墨 Fiber reinforced thermoset/graphite
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	材料 Cutting mat.	目录号 Cat. No.	设计/应用 Design/Application	页码 Page
 上切单刃铣刀 Single flute end mill with upcut	整体硬质合金 SC	13000	 Z=1   	11
 下切单刃铣刀 Single flute end mill with downcut		12000	 Z=1  	13
 上切单刃“Cristal”铣刀 Single flute end mill "Cristal" with upcut		53000	 Z=1   	14
 直槽单刃铣刀 Single flute, straight fluted		61-400 61-000P	 Z=1   	15
 上切双刃铣刀 2 flutes end mill with upcut		193000	 Z=2  	16
 上切双刃铣刀 2 flutes end mill with upcut		52-700	 Z=2  	17
 直槽双刃铣刀 2 flutes end mill, straight fluted		56-430 56-600	 Z=2   	18
 直槽双刃铣刀 2 flutes end mill, straight fluted		56-450 56-000	 Z=2   	19
 3刃立铣刀 3 flutes end mill		67-200	 Z=3   	20
 上切双刃长型球头立铣刀 2 flutes ball nose end mill, long with upcut		117000	 Z=2   	21
 上切双刃超精表面(镜面)立铣刀 2 flutes, Superfinish ball nose end mill with upcut		65-200B	 Z=2   	22
 上切短型和长型球头立铣刀 2 flutes ball nose end mill, short and long with upcut		52-200B	 Z=2   	23
 双刃压迫式立铣刀 2 flutes end mill, Compression end mill		43000	 Z=2  	24
 Kevlar立铣刀 Kevlar end mill		119000	  	25
 上切式蜂窝粉碎刀 Honeycomb Hogger with upcut		29-100	 	26
 复合材料铣刀 Composite Router		67-000	 	27
 DFC复合材料铣刀 DFC Composite Router	DFC整体 硬质合金 SC DFC	118000	 	28
 HPC铣刀 HPC Router	整体硬质合金加 氮化钛涂层 SC TiN	66-900	 	29
 DFC复合材料立铣刀 DFC Compression end mill	DFC整体 硬质合金 SC DFC	66-800	 	31
 PCD直槽单刃“Saphir”立铣刀 Single flute end mill "Saphir", straight fluted	聚晶金刚石 PCD	204000	 Z=1  	32
 PCD直槽单刃“Saphir”立铣刀 Single flute end mill "Saphir", straight fluted		205000	 Z=1  	33
 PCD压迫式立铣刀 PCD Compression end mill		213000	 	34
 PCD直槽双刃立铣刀 2 flutes end mill, straight fluted		203000	 Z=2 	35

	材料 Cutting mat.	目录号 Cat. No.	设计/应用 Design/Application	页码 Page
 PCD立铣刀 Serf cutter	聚晶金刚石 PCD	68-200	 Z=2 	36
 带精修刃的立铣刀 Serf cutter with finishing wing		68-300	 Z=3 	37
 金刚石研磨球头立铣刀 Diamond grit ball nose end mill	天然金刚石颗粒 Diamond grit	29-050B	 	38
 MCD超精雕刻立铣刀 MCD Superfinish engraving end mill	单晶金刚石 MCD	211000	 Z=1 	39
 PCD超精雕刻立铣刀 PCD Superfinish engraving end mill	聚晶金刚石 PCD	212000	 Z=1 	40

钻削
Drilling

	材料 Cutting mat.	目录号 Cat. No.	设计/应用 Design/Application	页码 Page
 高速钢钻头 HSS-Drill	高速钢 HSS	70-700 70-500	 Z=2 	41
 硬质合金8面刃钻头 Solide carbide 8 Facet drill	整体硬质合金 SC	67-900 67-800	 Z=2 	44
 Kevlar钻头 Kevlar drill		86-000	 Z=2 	46
 DFC抛物线钻头 DFC Parabolic drill	DFC整体 硬质合金 SC DFC	86-100	 Z=2 	47
 PCD Sandwich钻头 PCD Sandwich drill	聚晶金刚石 PCD	494000	 Z=2 	48
 PCD8面刃钻头 PCD 8 Facet drill		68-900	 Z=2 	49
 PCD微型钻头 PCD Micro drill		493000	 Z=2 	50

多层材料铣削刀具
Multi part milling tools

	材料 Cutting mat.	目录号 Cat. No.	设计/应用 Design/Application	页码 Page
 金刚石研磨粉碎刀 Diamond grit hogger	天然金刚石颗粒 Diamond grit	29-050	 	51
 蜂窝切削刀片柄 Holder for honeycomb cutting blades	整体硬质合金 SC	30-000		53
 带减重的蜂窝粉碎刀 Honeycomb hogger with reduced weight	高速钢 HSS	30-700	 	54
 切蜂窝材料的飞机面板刀具 Aircraft Panel Tool for honeycombs	高速钢或者天然 金刚石颗粒 HSS or Diamond grit	34-000	 	55
 MCD超精立铣刀 MCD Superfinish face end mill	单晶金刚石 MCD	98100	 Z=1 	56

																
目录号 Cat.-No.	211000	212000	56-430	12000	13000	53000	204000	205000	61-400	193000	52-700	117000	65-200B	52-200B	43000	70-700
轮廓铣 Contour milling			■	■	■	■	■	■	■	■	■				■	
开槽 Slotting	■	■	□	□	■	■		□	□	■	■	□	□	□	□	
插铣 Plunging			■	□	■	■			■	■	■	□	□	□	□	
圆角铣 Corner milling			□	□	■	■		□	□	■	■				■	
仿形铣 Copy milling												■	■	■		
钻削 Drilling																■
参考值 Reference value	f_z [mm] CL [inch]															f [mm/U] f [IPR]
应用/最小值 Application min.	0,02 0.001	0,02 0.001	0,1 0.004	0,05 0.002	0,05 0.002	0,1 0.004	0,04 0.002	0,04 0.002	0,15 0.006	0,05 0.002	0,1 0.004	0,1 0.004	0,1 0.004	0,1 0.004	0,05 0.002	0,08 0.003
应用/最大值 Application max.	0,04 0.002	0,04 0.002	0,3 0.012	0,25 0.001	0,25 0.001	0,4 0.016	0,09 0.004	0,09 0.004	0,3 0.012	0,25 0.001	0,38 0.015	0,25 0.01	0,25 0.01	0,25 0.01	0,25 0.01	0,3 0.012
材质说明 Material description	缩写 Abbreviation		品牌 Brand name (examples)		应用范例 Application examples											
聚酰胺(尼龙) Polyamide	PA		Nylon, Perlon, Durethan, Ultramid, Zytel		齿轮, 导向环, 泵壳 Gears, guide rings, pump cases											
聚醚树脂 Polyacetals	POM		Delrin, Hostaform, Kepital, Ultraform		导向件, 外壳, 泵油元件 Guide parts, housings, pump elements, matching element (medicine)											
有机玻璃 Polymethylmethacrylate	PMMA		Acryl, Plexiglas, Resartglas, Pegalan		显示器, 广告材料, 照明, 外壳 Displays, advertising materials, lighting, housing											
聚乙烯 Polyethylene	PE		Baylon, Sustylen, Hostalen, Lumpolen, Vestolen		机床机身, 座椅, 假肢和矫形器具 Machine body, seats, prostheses and orthoses											
聚苯乙烯 Polystyrene	PS		Bucara, Langolen, Hostyren, Polystyrol		绝缘材料, 显示器, 标志标牌 Insulation, display, signage											
聚对苯二甲酸乙二醇酯 Polyethylene terephthalate	PET		Hostaphan, Novatron Enduran, Bitan		医疗装置, 设备的外表层覆膜 Covers for medical equipment, apparatus											
聚碳酸酯 Polycarbonate	PC		Bayfol, Makrolon, Stapron, Lexan, Merlon		安全眼镜, 标志, 板材, 覆膜 Safety glass, signs, plates, covers											
聚苯 Polyphenylene	PPE		Celanex, Noryl, Vestoran		电气工程绝缘件, 齿轮 Insulating parts in electrical engineering, gears											
(工程塑料)聚乙炔共聚物 Acrylonitrile-butadiene-styrene	ABS		Saxalac, Toyolac, Riadur, Sinkral		外壳, 面板 Housing, panels											
聚丙烯 Polypropylene	PP		Hostalen, Novolen, Eltex, Vestolen		元件支座, 外壳 Component support, housing, profiles											
聚氨酯 Polyurethane	PUR		Necuron, Obomodulan, Ureol, Raku-Tool		模具, 机床配件, 外壳部件 Models, machine parts, housing part											

■ = 非常适用 well suited
□ = 适用 also suited

已标明的切削参考值必须应用于通用设备条件下, (特殊条件需另外说明)。
The indicated cutting data are reference values and have to be leveled to the prevailing machining conditions.

													
目录号 Cat.-No.	53000	56-430	56-000	61-400	67-200	117000	65-200B	52-200B	212000	494000	493000	70-700	67-800
轮廓铣 Contour milling	■	■	■	■	■								
开槽 Slotting	■	□	■	□	■	□	□	□	■				
插铣 Plunging	■	■	■	■	■	□	□	□					
圆角铣 Corner milling	■	□	■	□	■								
仿形铣 Copy milling						■	■	■					
钻削 Drilling										■	■	■	■
参考值 Reference value	f_z [mm] CL [inch]									f [mm/U] f [IPR]			
应用/最小值 Application min.	0,05 0.002	0,07 0.003	0,12 0.005	0,09 0.003	0,12 0.005	0,025 0.001	0,025 0.001	0,025 0.001	0,025 0.001	0,08 0.003	0,09 0.003	0,08 0.003	0,08 0.003
应用/最大值 Application max.	0,3 0.012	0,3 0.012	0,3 0.012	0,3 0.012	0,3 0.012	0,1 0.005	0,13 0.005	0,13 0.005	0,04 0.002	0,7 0.03	0,7 0.03	0,3 0.012	0,3 0.02
材质说明 Material description	缩写 Abbreviation				品牌 Brand name (examples)				应用范例 Application examples				
共聚酯碳酸酯 Polycarbonate	PC-HT				Apac				橱柜, 设备防护罩, 医疗 Cabinets, machinery guards, medical				
聚醚砜 Polyethersulfone	PES				Ultrason E, Radel A, Sumikaexcel				医疗器材, 汽车, 电气 Medical devices, automotive, electrical				
聚苯硫醚 Polyphenylene sulfide	PPS				Fortron, Ryton, Tedur, Xtel				绝缘体, 开关零件, 底座, 连接物 Insulators, switch parts, chassis, adapters				
聚砜 Polysulfone	PSU				Mindel, Udel, Ultrason S, Vampsulf				交通信号灯, 加热泵, 过滤器外壳 Vehicle lights, heating pumps, filter housings				
聚醚醚酮 Polyetheretherketone	PEEK				Hostatec, Kadel, Victrex, KetaSpire				齿轮, 泵壳, 基体材料 Gears, pump housings, matrix material (e.g. CFRP)				
苯酚甲醛树脂 Phenol formaldehyde resin	PF				Delchi, Deltex, Resinol, Trolitan				面板, 外壳, 把手 Panels, housings, handles				
环氧树脂 Epoxy	EP				Epikote, Eposite, Epodur, Araldit				电气工程中, 基体材料 Electrical engineering, matrix material (e.g. CRP)				
不饱和聚酯 Unsaturated polyester	UP				Synolite				外壳, 绝缘材料, 基体材料 Housings, insulation material, matrix material (e.g. GRP)				
聚醚酰亚胺 Polyetherimide	PEI				Ultem, Siltem				电气工程, 飞机内饰, 基体材料 Electrical engineering, aircraft interior, matrix material (e.g. CFRP)				

■ = 非常适用 well suited
□ = 适用 also suited

已标明的切削参考值必须应用于通用设备条件下, (特殊条件需另外说明)。
The indicated cutting data are reference values and have to be leveled to the prevailing machining conditions.

											
目录号 Cat.-No.	56-000	212000	56-430	12000	13000	53000	61-400	193000	52-700	86-100	67-800
轮廓铣 Contour milling	■		■	■	■	■	■	■	■		
开槽 Slotting	■	■	□	□	■	■	□	■	■		
插铣 Plunging	■		■	□	■	■	■	■	■		
圆角铣 Corner milling	■		□	□	■	■	□	■	■		
仿形铣 Copy milling											
钻削 Drilling										■	■
参考值 Reference value					f_z [mm] CL [inch]				f [mm/U] f [IPR]		
应用/最小值 Application min.	0,08 0.003	0,025 0.001	0,08 0.001	0,025 0.001	0,025 0.001	0,025 0.001	0,08 0.003	0,025 0.001	0,025 0.001	0,025 0.001	0,025 0.001
应用/最大值 Application max.	0,23 0.009	0,04 0.002	0,23 0.009	0,2 0.008	0,2 0.008	0,23 0.009	0,23 0.009	0,12 0.005	0,12 0.005	0,1 0.004	0,08 0.003
材质说明 Material description	缩写 Abbreviation		品牌 Brand name (examples)		应用范例 Application examples						
聚酰胺(尼龙), 玻璃纤维加强 Polyamide, glass fiber reinforced	PA-GF		Akulon, Ultramid, Durethan		外壳机械零件, 汽车内饰 Housing, machine parts, automotive interior						
缩醛树脂, 玻璃纤维加强 Polyacetals, glass fiber reinforced	POM-GF		Ultraform, Hostaform		泵零部件, 环卫设备, 面板 Pump part, sanitation, panels						
聚醚醚酮, 玻璃纤维加强 Polyetheretherketone, glass fiber reinforced	PEEK-GF		Victrex		外壳, 泵, 插座 Housing, pumps, sockets						
聚丙烯, 玻璃纤维加强 Polypropylene, glass fiber reinforced	PP-GF		Xmod		汽车内饰, 阀体外壳, 进气管道 Vehicle interior, valve housing, intake manifold						
聚碳酸酯, 玻璃纤维加强 Polycarbonate, glass fiber reinforced	PC-GF		-		汽车内饰, 引擎部件, 外壳 Vehicle interior, engine parts, housing						
聚四氟乙烯, 玻璃纤维加强 Polytetrafluoroethylene, glass fiber reinforced	PTFE-GF		-		密封件, 轴承, 阀座(气门座) Seals, bearings, valve seats						
聚砜(聚丙炔), 玻璃纤维加强 Polysulfone, glass fiber reinforced	PSU-GF		-		医疗设备和资源 Medical equipment and aids						
聚苯硫醚, 玻璃纤维加强 Polyphenylene sulfide, glass fiber reinforced	PPS-GF		Fortron		泵部件, 发动机部件 Pump parts, engine parts						
(氟化树脂)聚偏氟乙烯, 玻璃纤维加强 Polyvinylidene fluoride, glass fiber reinforced	PVDF-GF		-		外壳 叶轮(泵轮) Housing, impellers						

■ = 非常适用 well suited
□ = 适用 also suited

已标明的切削参考值必须应用于适用设备条件下, (特殊条件需另外说明)。
The indicated cutting data are reference values and have to be leveled to the prevailing machining conditions.

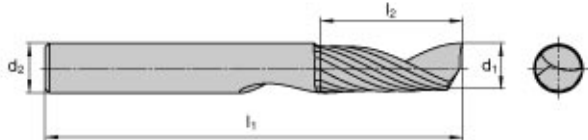
																																																																																																																																																																																																																																																											
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目录号 Cat.-No.	53000	56-000	43000	213000	203000	494000	493000	86-100	67-800	68-900
轮廓铣 Contour milling	■	■	■	■	■					
开槽 Slotting	■	■	□	□	□					
插铣 Plunging	■	■	□	■	■					
圆角铣 Corner milling	■	■	■	□	□					
仿形铣 Copy milling										
钻削 Drilling						■	■	■	■	■
参考值 Reference value	f _z [mm] CL [inch]					f [mm/U] f [IPR]				
应用/最小值 Application min.	0,025 0,001	0,025 0,001	0,025 0,001	0,025 0,001	0,08 0,003	0,025 0,001	0,025 0,001	0,025 0,001	0,025 0,001	0,025 0,001
应用/最大值 Application max.	0,12 0,005	0,12 0,005	0,15 0,006	0,12 0,005	0,23 0,009	0,10 0,007	0,15 0,006	0,12 0,005	0,1 0,004	0,18 0,007
举例 Examples	应用范例 Application examples									
碳纤维-钛合金 CFRP-Titanium	结构组件和元器件 Structural components and elements									
材料-钛合金 CFRP-Aluminum				■	■	■	■	■	■	■
材料-黄铜 CFRP-brass				■	■	■	■	■	■	■
铝-尼龙-玻纤 Aluminum-PA GF	■	■			■	■	■		■	
铝-PC-玻纤 Aluminum-PC GF	■	■			■	■	■		■	
人造革-聚氨酯-聚丙烯-玻纤 Leatherette-PUR-PP GF	■	■	■					■	■	

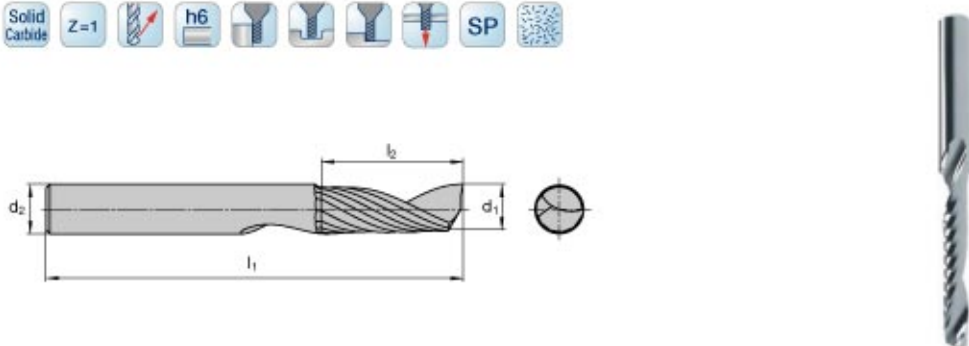
蜂窝材料
Honeycomb

						
目录号 Cat.-No.	30-000	29-050	30-700	29-100	34-000	29-050B
轮廓铣 Contour milling		■	■	■	■	
开槽 Slotting				■	■	
插铣 Plunging				□		
圆角铣 Corner milling		■	■	■		
仿形铣 Copy milling	■	■	■			■
钻削 Drilling						
参考值 Reference value	v _f [m/min] v _f [IPM]					f [mm/U] f [IPR]
应用/最小值 Application min.	3 100	3 100	3 100	3 100	3 100	0,03 0,001
应用/最大值 Application max.	20 800	20 800	20 800	20 800	5,6 220	0,2 0,005
材质说明 Material description	品牌 Brand name (examples)	应用范例 Application examples				
纸基 Paper based	SCW	展示和家具结构部件, 交通运输 Fair- and furniture constructions, transport				
纸基, 浸酚醛树脂 Paper based, Phenolic impregnated	Nomex, PN1	飞机内饰, 地板, 镶嵌面板 Aircraft interiors, flooring, paneling				
纸基, 带芳纶纤维加强筋 Paper based, Aramid fiber reinforced	PK2	飞机内饰, 地板, 镶嵌面板 Aircraft interiors, flooring, paneling				
铝芯材料 Aluminum core	CRF, PCGA-PAMG	航天航空和火车部件 Aerospace- and train components				

■ = 非常适用 well suited
□ = 适用 also suited已标明的切削参考值必须应用于适用设备条件下, (特殊条件需另外说明)。
The indicated cutting data are reference values and have to be leveled to the prevailing machining conditions.

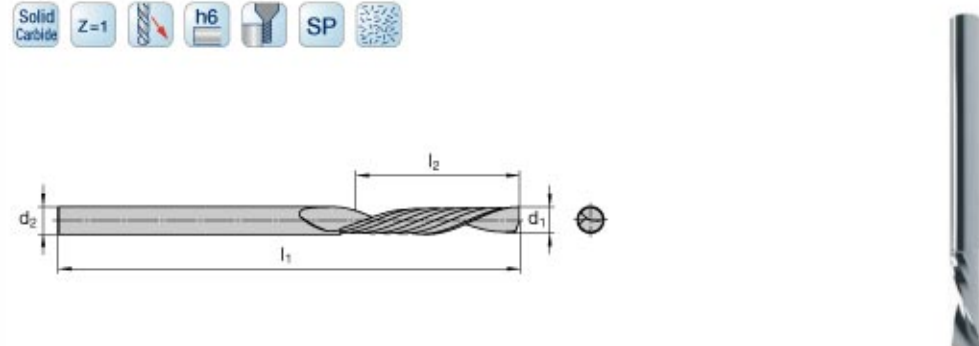
   					
					
目录号 Cat.-No.				13000	
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
1	4	3	30	13010	2700280
1,1	4	3	30	13011	2750688
1,2	4	3	30	13012	2750690
1,4	4	3	30	13014	2750692
1,5	6	3	30	13015	2700286
1,6	6	3	30	13016	2750694
1,8	6	3	30	13018	2750696
2	8	2	30	13020	2700132
2	8	2	60	13020A	2701855
2	8	3	30	13020B	2700287
2	8	6	50	13020C	2728731
2,5	8	2,5	30	13025	2700262
2,5	8	2,5	60	13025A	2701856
3	10	3	30	13030	2700263
3	10	3	60	13030A	2701867
3	10	6	50	13030B	2700288
3	20	3	60	13030C	2709117
3	20	6	60	13030D	2709118
3	15	3	40	13030E	2731105
4	12	4	50	13040	2700264
4	20	4	60	13040A	2701859
4	30	4	70	13040B	2701860
4	12	6	50	13040C	2700289
4	20	6	60	13040D	2709119
4	12	4	40	13040E	2734847
5	16	5	60	13050	2700265
5	30	5	70	13050A	2701861
5	16	6	50	13050B	2700290
6	20	6	60	13060	2700266
6	30	6	70	13060A	2701862
6	38	6	80	13060B	2701863
8	22	8	60	13080	2700267
8	38	8	80	13080A	2701865
10	30	10	75	13100	2700268
12	30	12	75	13120	2700269

应用推荐参阅6-10
Application recommendations see pages 6-10

Solid Carbide Z=1 h6 SP 					
目录号 Cat.-No.			13000		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
英制 inch					
0.125	0.250	0.250	1.500	13317	2701858
0.125	0.250	0.125	2	13317A	2703218
0.188	0.625	0.250	2	13476	2701866
0.188	0.625	0.188	2	13476A	2703219
0.188	1.250	0.250	3	13476B	2709114
0.250	0.750	0.250	2	13635	2701864
0.250	1.500	0.250	3	13635A	2709115
0.250	2.250	0.250	3.750	13635B	2743445
0.250	1.125	0.250	3	13635C	2750260
0.375	1.125	0.375	3	13952	2743447
0.375	3.188	0.375	5	13952A	2743449
0.500	1.250	0.500	3	13127	2709116
0.500	2	0.500	4	13127A	2751019

可根据要求进行涂层
On request: Coating

应用推荐参阅6-10
Application recommendations see pages 6-10

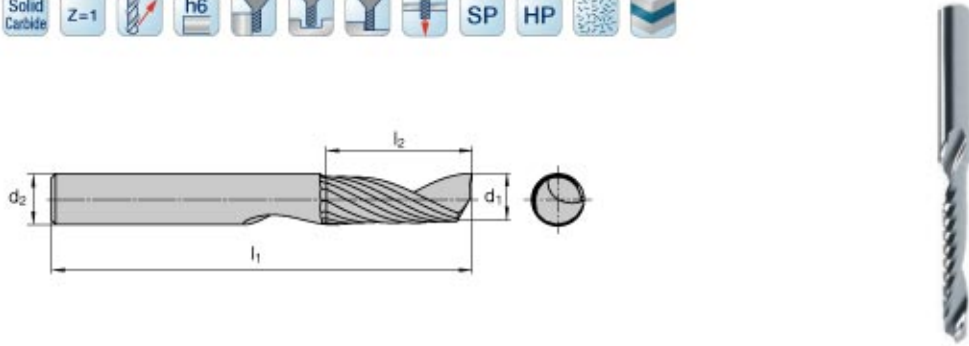
Solid Carbide Z=1 h6 SP 					
目录号 Cat.-No.			12000		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
1	4	3	30	12010	2700279
1,5	6	3	30	12015	2700281
2	8	2	30	12020	2700025
2	8	2	60	12020A	2701844
2	8	3	30	12020B	2700282
2,5	8	2,5	30	12025	2700254
2,5	8	2,5	60	12025A	2701846
3	10	3	30	12030	2703050
3	10	3	60	12030A	2701847
3	10	6	50	12030B	2700283
4	12	4	50	12040	2700256
4	20	4	60	12040A	2701849
4	30	4	70	12040B	2701850
4	12	6	50	12040C	2700284
5	16	5	60	12050	2700257
5	30	5	70	12050A	2701852
5	16	6	50	12050B	2700285
6	20	6	60	12060	2700258
6	30	6	70	12060A	2701843
6	38	6	80	12060B	2701841
8	22	8	60	12080	2700259
8	38	8	80	12080A	2701854
10	30	10	75	12100	2700260
12	30	12	75	12120	2700261
英制 inch					
0.125	0.500	0.250	1.500	12317	2701848
0.188	0.625	0.250	2	12476	2701851
0.250	0.750	0.250	2	12635	2701853

可根据要求进行涂层
On request: Coating

应用推荐参阅6-10
Application recommendations see pages 6-10

上切单刃“Cristal”铣刀
End mill, single flute “Cristal”



Solid Carbide Z=1 h6 SP HP 					
目录号 Cat.-No.		53000			
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	9	3	30	53030	2823827
4	13	4	50	53040	2823828
4	13	6	50	53040A	2803593
6	16	6	50	53060	2823830
8	20	8	60	53080	2823831
10	23	10	60	53100	2823832
英制 inch					
0.188	0.500	0.188	1.250	53476	2864636
0.250	0.625	0.250	2	53635	2864637
0.375	1	0.375	2.375	53952	2864638

可根据要求进行涂层
On request: Coating



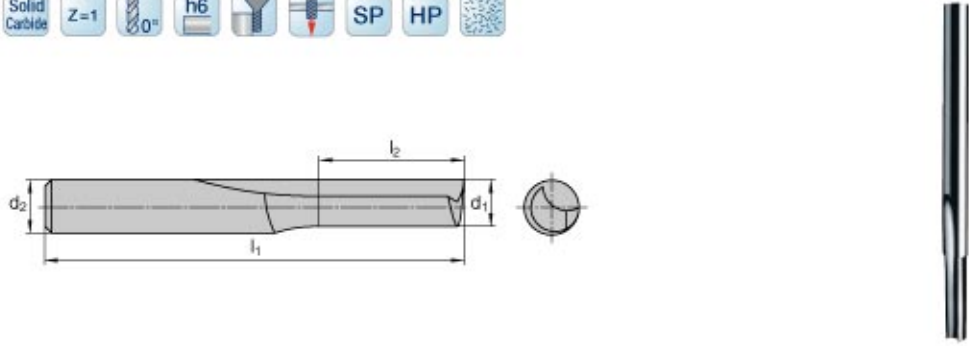
由于它的抛光排屑槽和一条极其锋利的切削刃，这种通用立铣刀可以取得非常高精度的表面质量，这种多角度的几何结构拥有非常优秀的排屑效果。

Due to its polished flute and an extremely sharp cutting edge, this universal end mill permits to obtain highest surface qualities. The multi-facet geometry supports this effect by a perfect chip evacuation.

应用推荐参阅6-10
Application recommendations see pages 6-10

单刃立铣刀
End mill, single flute



Solid Carbide Z=1 0° h6 SP HP 					
目录号 Cat.-No.		61-400 61-000P			
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
4	16	4	64	61-410	7054031
5	20	6	64	61-411	7054032
6	25	6	64	61-412	7054033
8	25	8	64	61-414	7054034
12	35	12	88	61-418	7054035
英制 inch					
0.125	0.500	0.250	2	61-042	7054025
0.125	0.625	0.250	4	61-043	7054026
0.188	0.625	0.250	2	61-062	7054027
0.250	0.750	0.250	2.500	61-082	7054028
0.250	1.250	0.250	4	61-084	7054029
0.375	0.875	0.375	2.500	61-122	7054030

可根据要求进行涂层
On request: Coating

应用推荐参阅6-10
Application recommendations see pages 6-10

Solid Carbide Z=2 h6 SP					
目录号 Cat.-No.			193000		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
5	20	5	70	193050	2758471
6	22	6	76	193060	2755602
8	25	8	76	193080	2755604
10	30	10	76	193100	2755606
12	35	12	80	193120	2757588
英制 inch					
0.250	0.875	0.250	2.500	193635	2781854
0.375	1	0.375	3	193952	2781848
0.500	1.375	0.500	3.125	193127	2781846

可根据要求进行涂层
On request: Coating

i 这种两刃铣刀可以替代我们的13000系列：通常用于热塑性塑料，上切式设计。
The two fluted alternative to our 13000 series: universal end mill for thermoplastics. Upcut geometry.

应用推荐参阅6-10
Application recommendations see pages 6-10

Solid Carbide Z=2 h6 SP					
目录号 Cat.-No.			52-700		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
12	35	12	100	52-742	7053925
12	45	12	100	52-744	7053926
12	55	12	100	52-746	7053927
16	45	16	120	52-752	7053928
16	55	16	120	52-754	7053929
20	65	20	125	52-764	7053930
英制 inch					
0.125	0.500	0.250	2	52-703	7053931
0.250	0.875	0.250	3	52-707	7053932
0.188	0.375	0.188	2.500	52-708	7053933
0.250	1.250	0.250	3	52-700	7053934
0.375	1	0.375	3	52-709	7053935
0.188	0.625	0.250	2.500	52-710	7053936
0.375	1.500	0.375	4	52-701	7053937
0.500	1.250	0.500	4	52-702	7053938
0.500	1.750	0.500	4	52-704	7053939
0.500	2.125	0.500	4	52-706	7053940
0.625	1.750	0.625	5	52-712	7053941
0.625	2.250	0.625	5	52-714	7053942
0.750	1.750	0.750	5	52-726	7053943
0.750	2.500	0.750	5	52-724	7053944
0.750	4	0.750	6.500	52-728	7053945
1	4	1	6.500	52-734	7053946

i 该双刃铣系列在大直径范围内能完全替代单刃铣刀；大螺旋角几何设计能在切削软塑料时获得很好的光洁度和向上排屑；特殊几何槽型能提高底部加工精度。
This 2 flute series does complete our approved single flute program in larger diameter ranges. High helix geometry designed to cut soft plastic with a smooth finish and upward chip flow. Special point geometry for improved bottom finish.

应用推荐参阅6-10
Application recommendations see pages 6-10



目录号 Cat.-No.

56-430 | 56-600

d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	12	6	50	56-612M	7053953
4	16	6	64	56-430	7053954
5	20	6	64	56-431	7053955
6	25	6	64	56-432	7053956
8	25	8	76	56-434	7053957
10	35	10	88	56-436	7053958
12	25	12	76	56-650M	7053959
12	35	12	88	56-438	7053961
英制 inch					
0.125	0.313	0.250	2	56-610	7054019
0.125	0.625	0.250	4	56-614	7054020
0.188	1	0.250	4	56-620	7054021
0.250	1	0.250	2.500	56-625	7054022
0.375	0.875	0.375	2.500	56-638	7054023
0.500	1	0.500	3	56-650	7054024

应用推荐参阅6-10
Application recommendations see pages 6-10



目录号 Cat.-No.

56-450 | 56-000

d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
4	16	6	64	56-450	7053947
5	20	6	64	56-451	7053948
6	25	6	64	56-452	7053949
8	25	8	76	56-454	7053950
10	35	10	88	56-456	7053951
12	35	12	88	56-458	7053952
英制 inch					
0.125	0.250	0.250	2	56-041	7054014
0.188	0.625	0.250	2	56-062	7054015
0.250	0.750	0.250	2.500	56-082	7054016
0.375	0.875	0.375	2.500	56-122	7054017
0.500	1	0.500	3	56-162	7054018

可根据要求进行涂层
On request: Coating

应用推荐参阅6-10
Application recommendations see pages 6-10

3刃立铣刀
3 flutes end mill



Solid Carbide
Z=3









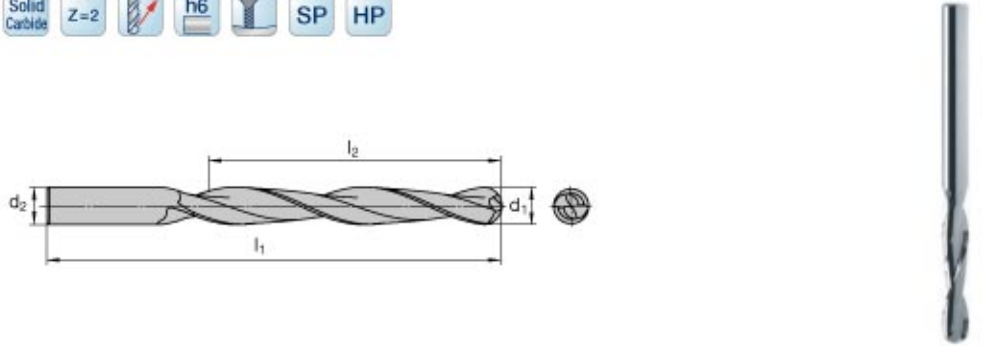

目录号 Cat.-No.					67-200	
d ₁	l ₂	d ₂	l ₁	螺旋 Helix	LMT-Code	Ident No.
公制 mm						
10	22	10	75	上切式 upcut	PCL56269	7053886
12	28	12	75		PCL56270	7053887
10	22	10	75	下切式 downcut	PCL56271	7053888
12	28	12	75		PCL56272	7053889
英制 inch						
0.375	0.875	0.375	3	上切式 upcut	67-205	7053890
0.500	1.125	0.500	3		67-211	7053891
0.500	2.125	0.500	4		67-215	7053892
0.375	0.875	0.375	3	下切式 downcut	67-206	7053893
0.500	1.125	0.500	3.500		67-212	7053894
0.500	2.125	0.500	4.500		67-216	7053895

i 适用于各种低速/高速CNC机床。
切削轻快，可获得更好的表面质量，降低了切削阻力和低噪音。
Equally adaptable to low or high spindle speed applications in any CNC machining environment.
The free cutting action of the tools provides for better finishes, reduced cutting force and significantly lower noise levels.

应用推荐参阅6-10
Application recommendations see pages 6-10

上切双刃长型球头立铣刀
Ball nose end mill, 2 flutes, long



Solid Carbide Z=2 h6 SP HP 					
目录号 Cat.-No.		117000			
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
2	10	4	80	117020	2700055
3	15	6	90	117030	2700334
4	20	6	100	117040	2700335
5	20	6	100	117050	2700336
6	30	6	130	117060	2700337
8	40	8	150	117080	2700340
10	50	10	180	117100	2700338
12	50	12	200	117120	2700339
英制 inch					
0.125	0.625	0.250	3.250	117317	2809276
0.188	0.875	0.250	4	117476	2819786
0.250	1.250	0.250	5.125	117635	2819788
0.500	2	0.500	8	117127	2803712

可根据要求进行涂层
On request: Coating

应用推荐参阅6-10
Application recommendations see pages 6-10

Solid Carbide Z=2 h6 SP HP					
目录号 Cat.-No.			65-200B		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	12	3	64	65-280B	7053979
6	20	6	76	65-285B	7053980
8	25	8	76	65-290B	7053981
10	30	10	76	65-295B	7053982
英制 inch					
0.063	0.250	0.125	2	65-205B	7053983
0.125	0.500	0.125	2.500	65-210B	7053984
0.188	0.500	0.250	2.500	65-215B	7053985
0.250	0.500	0.250	2.500	65-220B	7053986
0.250	1.125	0.250	3	65-225B	7053987
0.313	0.500	0.313	3	65-235B	7053988
0.313	1.125	0.313	3	65-240B	7053989
0.375	1.125	0.375	3	65-250B	7053990
0.500	1.125	0.500	3	65-260B	7053991



新开发的独特的几何槽型，特别的设计，大抛光的主切削刃和排屑槽，赋予了该铣刀在机械塑料(例如人造膝关节)加工时可以获得28Ra(inch)的表面光洁度，避免了不规则的表面处理和明显的刀痕。

The new tool's unique geometry, specially designed point, and highly polished primary clearance and flute give the tool the ability to attain a surface quality of 28 Ra (inch) in mechanical plastic (e. g. inlays for knee prothesis), avoiding irregular surface finish or evident tool marks.

Solid Carbide
Z=2
h6
SP
HP

目录号 Cat.-No.

52-200B | BL | BM

d ₁	l ₂	d ₂	l ₁	l ₃	LMT-Code	Ident No.
公制 mm						
短 short						
3	12	6	50	—	52-240BM	7053992
6	22	6	64	—	52-280BM	7053993
10	29	10	76	—	52-320BM	7053994
12	29	12	76	—	52-360BM	7053995
英制 inch						
短 short						
0.063	0.250	0.125	2	—	52-235B	7053996
0.125	0.500	0.125	2	—	52-244B	7053997
0.125	0.500	0.250	2	—	52-240B	7053998
0.188	0.750	0.250	2	—	52-260B	7053999
0.250	0.875	0.250	2.500	—	52-280B	7054000
0.375	1.125	0.375	3	—	52-320B	7054001
0.500	1.125	0.500	3	—	52-360B	7054002
0.625	2.250	0.625	4	—	52-386B	7054003
0.750	2.500	0.750	5	—	52-397B	7054004
长 long						
0.063	0.250	0.125	3	—	52-235BL	7054005
0.125	0.500	0.125	3	1.625	52-244BL	7054006
0.125	0.500	0.250	3	1.625	52-240BL	7054007
0.188	0.750	0.250	3	1.625	52-260BL	7054008
0.250	1	0.250	4	2.625	52-280BL	7054009
0.375	1.250	0.375	4	2.625	52-320BL	7054010
0.500	1.500	0.500	5	3.625	52-360BL	7054011
0.625	2.500	0.625	5	3.625	52-386BL	7054012
0.750	3	0.750	6	4.625	52-397BL	7054013



设计用于雕刻和建模工序。相对于大多数球头铣刀而言，它改良了尖端几何槽型，提高切削性能，长型的铣刀只有英制尺寸，公制长型的铣刀被117000系列所覆盖。

Designed for carving and modeling operations. Their improved tip geometry gives a superior cut compared to most ball nose end mills. Long version only available in inch sizes, the metric long version is covered by 117000 series.

Solid Carbide

Z=2

SP

目录号 Cat.-No.

43000

d_1

l_2

d_2

l_1

l_3

LMT-Code

Ident No.

公制 mm

6

22

6

76

11

43060

2709823

8

25

8

76

12,5

43080

2730648

10

30

10

76

15

43100

2709827

12

35

12

80

17,5

43120

2755506

英制 inch

0.250

0.875

0.250

2.500

0.440

43635

2730650

0.375

1

0.375

3

0.500

43925

2730646

0.500

1.125

0.500

3

0.560

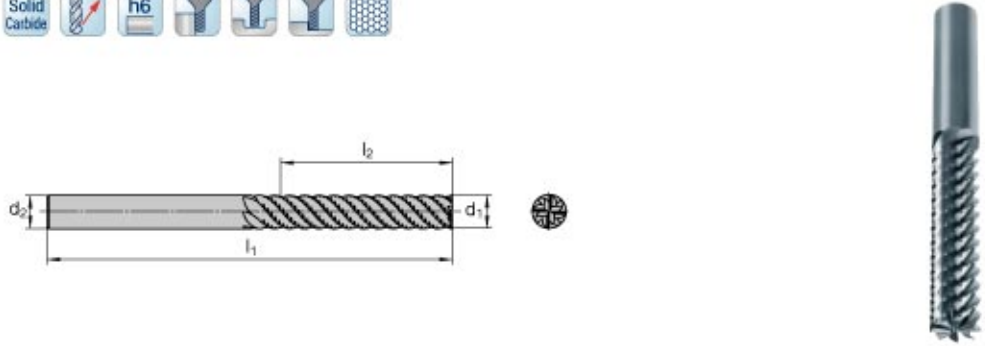
43127

2730652

i 锋利的切削刃同时具有上切和下切的螺旋槽，适用于切削软塑料并复合有外层面板材料，避免产生毛刺，分层。
The sharp edge combined with an upcut-downcut helix allows to cut soft plastics also with skin layers without generating burrs.

Solid Carbide h6					
目录号 Cat.-No.			119000		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	12	3	60	119030	2864643
4	15	4	60	119040	2864644
5	20	5	75	119050	2864645
6	25	6	75	119060	2864646
8	25	8	75	119080	2816892
10	25	10	75	119100	2816890
12	25	12	75	119120	2864647
英制 inch					
0.250	1	0.250	3	119635	2864648
0.375	1	0.375	3	119952	2864649
0.500	1	0.500	3	119127	2864650

i 该刀具是专门设计用于铣削Kevlar/Aramid材料，从而获得一个很好的加工表面，特殊的排屑槽设计可以很好的切断Aramid纤维，从而避免留须和材料分层。
This tool is designed to mill Kevlar/Aramid materials and produce a clean surface. The specific flute design shears the aramid fibers eliminating whiskers or delamination.

Solid Carbide h6 					
目录号 Cat.-No.			29-100		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
12	60	12	150	29-120	7053971
16	80	16	150	29-135	7053972
英制 inch					
0.250	1.250	0.250	4	29-110	7053973
0.375	2	0.375	4	29-115	7053974
0.500	3	0.500	6	29-125	7053975
0.500	4.500	0.500	6.500	29-130	7053976
0.750	3	0.750	6	29-140	7053977
0.750	4.500	0.750	6.500	29-145	7053978



该刀被设计为一款多用途刀具，可以切削大多数蜂窝型材。

该刀优越的几何槽型在更好的粉碎和排屑的同时，硬度合金的刀体具有更长的使用寿命；长排屑槽可应用于深腔切削，同时也可用于大面积表面切削。

Designed to be a versatile tool and to cut most honeycomb core materials.

The solid carbide body offers long tool life while the proven hogger geometry shreds the core and evacuates chips. The long flute length allows for deep pocket applications and can also be used to surface large areas.

目录号 Cat.-No.

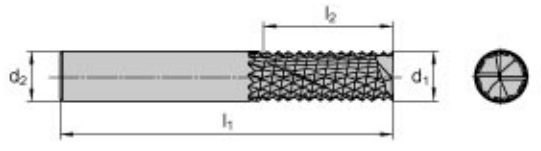
67-000

d ₁	l ₂	d ₂	l ₁	刀尖型式 Point style	LMT-Code	Ident No.
公制 mm						
4	16	6	50	钻头 Drill	67-090	7053800
6	19	6	63		67-091	7053801
6	25	6	75		67-092	7053802
8	25	8	63		67-093	7053803
10	25	10	75		67-094	7053804
12	25	12	75		67-095	7053805
英制 inch						
0.125	1	0.125	2	立铣刀 End mill	67-003	7053806
0.250	1.125	0.250	3		67-011	7053807
0.375	1.625	0.375	3		67-023	7053808
0.500	1.125	0.500	3		67-031	7053809
0.500	2.125	0.500	4		67-037	7053810
0.250	0.750	0.250	2.500	钻头 Drill	67-080	7053811
0.375	0.875	0.375	2.500		67-120	7053812
0.500	1	0.500	3		67-160	7053813



该刀设计用于加工玻璃纤维，它们上切/下切菱形刃设计能有效地切断纤维材料，用来加工高耐磨材料的金刚石涂层的铣刀是118000系列。

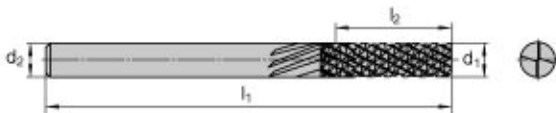
Designed as fiberglass routers. Their upcut/downcut diamond design effectively shears fibrous materials. The diamond coated version for highly abrasive materials is 118000 series.

  					
目录号 Cat.-No.				118000	
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	12	3	38	118030 DFC	2700065
4	16	4	50	118040 DFC	2700376
6	19	6	63	118060 DFC	2700377
6	25	6	75	118060A DFC	2700378
8	25	8	63	118080 DFC	2700380
10	25	10	75	118100 DFC	2700381
12	25	12	75	118120 DFC	2745255
英制 inch					
0.125	1	0.125	2	118317 DFC	2700375
0.188	0.688	0.188	2	118476 DFC	2782182
0.250	0.750	0.250	2.500	118635 DFC	2700379
0.375	1.625	0.375	3	118952 DFC	2864633
0.500	1.625	0.500	3	118127 DFC	2864635



由于采用了耐磨的金刚石涂层，该刀具特别应用于碳纤维增强型的热塑性材料。

Due to its wear-resistant diamond coating this tool is particularly dedicated to applications in carbonfiber-reinforced thermosets.

Solid Carbide AlTiN h6     								
目录号 Cat.-No.					66-900			
d ₁	l ₂	d ₂	l ₁	刀尖型式 Point style	LMT-Code	Ident No.		
公制 mm								
4	16	6	50	无 no	66-971ALTIN	7053814		
6	19	6	75		66-975ALTIN	7053818		
6	25	6	75		66-979ALTIN	7053822		
8	25	8	63		66-983ALTIN	7053824		
10	25	10	75		66-987ALTIN	7053826		
12	25	12	75		66-991ALTIN	7053830		
4	16	6	50	毛刺 burr	66-972ALTIN	7053815		
6	19	6	75		66-976ALTIN	7053819		
6	25	6	75		66-980ALTIN	7053823		
8	25	8	63		66-984ALTIN	7053825		
10	25	10	75		66-988ALTIN	7053827		
12	25	12	75		66-992ALTIN	7053831		
4	16	6	50	立铣刀 End mill	66-973ALTIN	7053816		
6	19	6	75		66-977ALTIN	7053820		
6	25	6	75		66-981ALTIN	7051442		
8	25	8	63		66-985ALTIN	7050939		
10	25	10	75		66-989ALTIN	7050950		
12	25	12	75		66-993ALTIN	7053832		
4	16	6	50	钻头 Drill	66-974ALTIN	7053817		
6	19	6	75		66-978ALTIN	7053821		
6	25	6	75		66-982ALTIN	7053371		
8	25	8	63		66-986ALTIN	7050489		
10	25	10	75		66-990ALTIN	7053829		
12	25	12	75		66-994ALTIN	7053833		
英制 inch								
0.125	0.500	0.125	1.500	无 no	66-901ALTIN	7053834		
0.188	0.625	0.250	2		66-905ALTIN	7053838		
0.250	1	0.250	3		66-909ALTIN	7053842		
0.250	1.500	0.250	3.500		66-913ALTIN	7053846		
0.250	2.125	0.250	4		66-917ALTIN	7053850		
0.375	1	0.375	3		66-921ALTIN	7053854		
0.375	1.625	0.375	3.500		66-925ALTIN	7053858		
0.375	2.125	0.375	4		66-929ALTIN	7053862		
0.500	1.125	0.500	3		66-933ALTIN	7053866		
0.500	1.625	0.500	4		66-937ALTIN	7053870		
0.500	2.125	0.500	4		66-941ALTIN	7053874		
0.500	3.125	0.500	5		66-945ALTIN	7053878		
0.500	4.125	0.500	6	66-949ALTIN	7053882			
0.125	0.500	0.125	1.500	毛刺 burr	66-902ALTIN	7053835		
0.188	0.625	0.250	2		66-906ALTIN	7053839		
0.250	1	0.250	3		66-910ALTIN	7053843		
0.250	1.500	0.250	3.500		66-914ALTIN	7053847		
0.250	2.125	0.250	4		66-918ALTIN	7053851		
0.375	1	0.375	3		66-922ALTIN	7053855		
0.375	1.625	0.375	3.500		66-926ALTIN	7053859		

Solid Carbide AlTiN h6								
Katalog-Nr. Cat.-No.				66-900				
d ₁	l ₂	d ₂	l ₁	刀尖型式 Point style	LMT-Code	Ident No.		
英制 inch								
0.375	2.125	0.375	4	毛刺 burr	66-930ALTIN	7053863		
0.500	1.125	0.500	3		66-934ALTIN	7053867		
0.500	1.625	0.500	4		66-938ALTIN	7053871		
0.500	2.125	0.500	4		66-942ALTIN	7053875		
0.500	3.125	0.500	5		66-946ALTIN	7053879		
0.500	4.125	0.500	6		66-950ALTIN	7053883		
0.125	0.500	0.125	1.500	立铣刀 End mill	66-903ALTIN	7053836		
0.188	0.625	0.250	2		66-907ALTIN	7053840		
0.250	1	0.250	3		66-911ALTIN	7053844		
0.250	1.500	0.250	3.500		66-915ALTIN	7053848		
0.250	2.125	0.250	4		66-919ALTIN	7053852		
0.375	1	0.375	3		66-923ALTIN	7053856		
0.375	1.625	0.375	3.500		66-927ALTIN	7053860		
0.375	2.125	0.375	4		66-931ALTIN	7053864		
0.500	1.125	0.500	3		66-935ALTIN	7053868		
0.500	1.625	0.500	4		66-939ALTIN	7053872		
0.500	2.125	0.500	4		66-943ALTIN	7053876		
0.500	3.125	0.500	5		66-947ALTIN	7053880		
0.500	4.125	0.500	6		66-951ALTIN	7053884		
0.125	0.500	0.125	1.500		钻头 Drill	66-904ALTIN	7053837	
0.188	0.625	0.250	2			66-908ALTIN	7053841	
0.250	1	0.250	3			66-912ALTIN	7053845	
0.250	1.500	0.250	3.500	66-916ALTIN		7053849		
0.250	2.125	0.250	4	66-920ALTIN		7053853		
0.375	1	0.375	3	66-924ALTIN		7053857		
0.375	1.625	0.375	3.500	66-928ALTIN		7053861		
0.375	2.125	0.375	4	66-932ALTIN		7053865		
0.500	1.125	0.500	3	66-936ALTIN		7053869		
0.500	1.625	0.500	4	66-940ALTIN		7053873		
0.500	2.125	0.500	4	66-944ALTIN		7053877		
0.500	3.125	0.500	5	66-948ALTIN		7053881		
0.500	4.125	0.500	6	66-952ALTIN		7053885		



新的高性能复合材料铣铁刀，较深的排屑槽提高了排屑量带走了切削热量，从而获得较长的刀具寿命并保护了工件。优越的刀具几何角度可以加工出光滑的边缘，省去了二次加工。在手工铣铁应用中，该槽型满足了操作员低切削力的要求，在CNC机床加工中，同样可以获得高的速度和进给，提高了生产率，降低了成本，由于该刀具不同的刀尖型式，所以应用非常广泛，并且可以根据客户要求涂覆涂层。

The new High Performance Composite Router is, contrary to other router bits, a true cutting tool. Deep cutting flutes increase the chip flow and aids in dissipating heat resulting in longer tool life and protecting the workpiece. The geometry produces a smooth edge on the material, eliminating secondary operations. In a hand router application, the geometry reduces the cutting force required by the operator. In a CNC router application, higher speeds and feeds can be achieved, increasing productivity and lowering costs. Due to its different point geometries, it is very versatile. On request the tools can be quoted with a diamond film coating.

应用推荐参阅6-10

Application recommendations see pages 6-10

Solid Carbide AlTiN h6							
目录号 Cat.-No.				66-800			
d ₁	l ₂	d ₂	l ₁	l ₃	齿数 No. of teeth	LMT-Code	Ident No.
公制 mm							
6	20	6	90	7,75	4	66-852 DFC	7053906
8	25	8	100	8	4	66-858 DFC	7053907
10	25	10	100	8,5	6	66-864 DFC	7050180
12	25	12	100	9	6	66-870 DFC	7053908
英制 inch							
0.250	0.750	0.250	3.500	0.325	4	66-802 DFC	7053909
0.375	1	0.375	4	0.100	4	66-811 DFC	7053910
0.375	1	0.375	4	0.340	6	66-814 DFC	7053911
0.500	1.125	0.500	4	0.100	6	66-817 DFC	7053912
0.500	1.125	0.500	4	0.350	6	66-823 DFC	7053913



LMT Onsrud的这款铣铁刀能解决复合材料铣铁加工中所有的常见问题。

为了防止加工中材料分层和提高材料边缘加工的质量，上切的螺旋角可以给材料底部向上的压力，而下切的螺旋角同时给材料顶部一个向下的压力，这两个同时的力可以压住被加工面板，防止树脂的移动。

同时切削热通过开放的排屑槽和刃倾角被切屑带走，这款刀具的特色是，带金刚石涂层的刀具在切削耐磨材料时有很长的寿命。

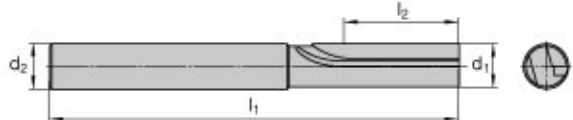
The design of LMT Onsrud's compression tool addresses all common issues encountered while routing composites.

To prevent delamination and improve edge finish, the upcut spiral exerts upward pressure on the bottom of the material and the downcut spiral exerts pressure on the top of the material, compressing the panel.

To prevent resin flow, heat is dissipated by the open flute geometry and the positive rake angle. The tool features diamond film coating (DFC) for longer life in abrasive materials.

应用推荐参阅6-10

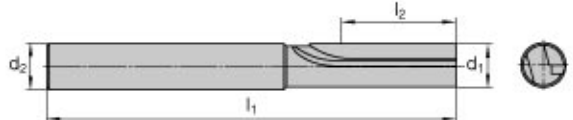
Application recommendations see pages 6-10

PCD Z=1								
								
目录号 Cat.-No.				204000				
d ₁	l ₂	d ₂	l ₁	最大材料厚度 max. material thickness	LMT-Code	Ident No.		
公制 mm								
3	6	6	50	4	204030	2825614		
4	10	6	50	8	204040	2825615		
6	14	6	50	12	204060	2813894		
8	18	8	50	16	204080	2813896		
10	22	10	60	20	204100	2813898		



这款新型的PCD刀具具有一个特殊的切削槽型和完美的排屑槽，它可以使你在加工PMMA(亚克力，有机玻璃)时获得一个抛光质量。

This new PCD tool with a superfine cutting edge and flute finishing will permit you to achieve a polished surface quality in PMMA materials like Plexiglas or other transparent thermoplastics like you used to know only from natural diamond tools.

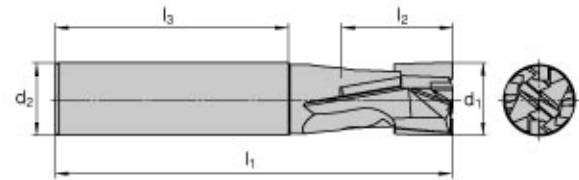
PCD Z=1								
								
目录号 Cat.-No.				205000				
d ₁	l ₂	d ₂	l ₁	最大材料厚度 max. material thickness	LMT-Code	Ident No.		
公制 mm								
3	6	6	50	4	205030	2825477		
4	10	6	50	8	205040	2825594		
6	14	6	50	12	205060	2818506		
8	18	8	50	16	205080	2818352		
10	22	10	60	20	205100	2825459		



这款中心切削铣刀的重要特点是允许你在平面上进行插铣和精加工。

The center cutting milling point permits plunging and finishing on the ground.

PCD压迫式立铣刀
PKD Compression end mill



目录号 Cat.-No.							213000	
d ₁	d ₂	l ₃	l ₂	l ₁	受压区 Compression zone	齿数 No. of teeth	LMT-Code	Ident No.
公制 mm								
6	10	44	6	60	6 ... 8	1 + 1	213060	2824139
8	12	44	8	60	7 ... 10	1 + 1	213080	2824140
10	18	50	10	80	10 ... 16	2 + 2	213100	2706230
12	20	50	12	80	11 ... 18	2 + 2	213120	2701173
14	22	55	14	90	12 ... 20	2 + 2	213140	2701174
16	26	55	16	95	14 ... 24	2 + 2	213160	2701175
18	28	55	18	100	15 ... 26	2 + 2	213180	2701176
20	30	65	20	110	16 ... 28	2 + 2	213200	2701177
25	32	65	25	115	17 ... 30	2 + 2	213250	2701178

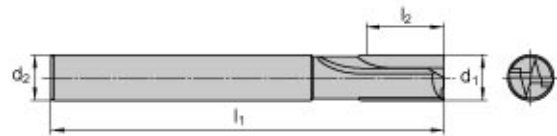


这款新PCD刀具专门用于高速铣削玻璃纤维或碳纤维加强的复合材料，清单中的受压区域就是推荐使用的材料厚度范围(最大和最小厚度)。

This new PCD tool is particularly dedicated to high speed milling of glass-or carbon-fibre reinforced composites. The recommended minimum and maximum material thickness permits you to stay inside the compression zone.

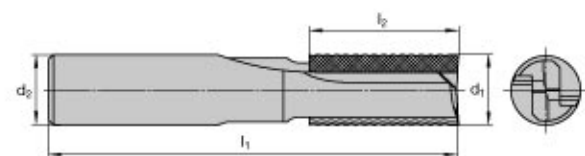
应用推荐参阅6-10
Application recommendations see pages 6-10

PCD直槽双刃立铣刀
End mill, 2 flutes



目录号 Cat.-No.					203000	
d ₁	d ₂	l ₂	l ₁	45° 倒角 45° Chamfer	LMT-Code	Ident No.
公制 mm						
3	6	8	80	0,05	203030	2701179
4	4	10	80	0,1	203040	2701180
6	6	15	80	0,1	203060	2787891
8	8	18	100	0,15	203080	2701181
10	10	20	100	0,2	203100	2701182
12	12	24	100	0,2	203120	2701183
14	14	26	120	0,2	203140	2701184
16	16	28	120	0,2	203160	2701185
18	18	30	120	0,2	203180	2701186
20	20	30	120	0,2	203200	2701187
英制 inch						
0.125	0.250	0.344	3.125	0.002	203317	2864639
0.250	0.250	0.625	3.125	0.004	203635	2864640
0.500	0.500	1	4	0.008	203127	2864641
0.750	0.750	1.125	5	0.008	203191	2864642

应用推荐参阅6-10
Application recommendations see pages 6-10

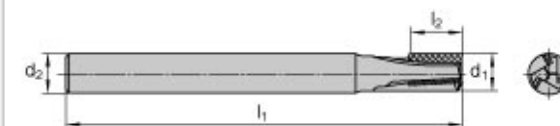


目录号 Cat.-No.				68-200	
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
6	20	6	76	68-213M	7052123
10	25	10	88	68-226M	7053914
12	32	12	100	68-236M	7053915
英制 inch					
0.250	0.375	0.250	3	68-210	7053916
0.250	0.750	0.250	3	68-213	7053917
0.250	1	0.250	3.500	68-216	7053918
0.375	0.375	0.375	3	68-220	7053919
0.375	0.750	0.375	3	68-223	7053920
0.375	1	0.375	3.500	68-226	7053921
0.500	0.750	0.500	4	68-230	7053922
0.500	1	0.500	4	68-233	7053923
0.500	1.250	0.500	4	68-236	7053924



做为粗加工刀具，它独特的几何形状大大降低了切削力，从而可以获得一个更长的使用寿命，更快的进给，并且降低了噪音。

This tool is particularly designed to act as a rougher. The unique geometry reduces the cutting forces resulting in longer tool life, higher feed rates and reduced noise.

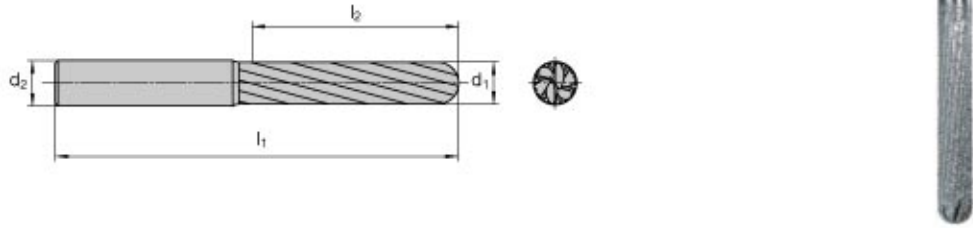


目录号 Cat.-No.				68-300	
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
8	10	8	76	68-310	7052122
10	14	10	100	68-325	7053902
12	14	12	100	68-330	7053903
12	26	12	100	68-335	7053904
16	26	16	100	68-355	7053905
英制 inch					
0.375	0.500	0.375	4	68-315	7053896
0.375	0.875	0.375	4	68-320	7053897
0.500	0.625	0.500	4	68-340	7053898
0.500	1	0.500	4	68-345	7053899
0.500	1.250	0.500	4	68-350	7053900
0.750	1.375	0.750	5	68-360	7053901

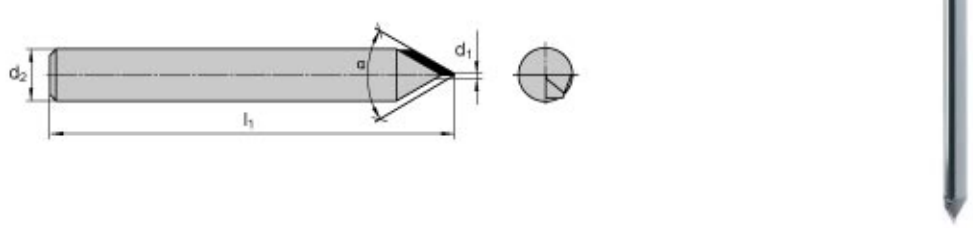


由于这个附加的精修翼，这款不同于普通的Serf铣刀的刀具在精加工时只需一次走刀。

Due to the additional Finishing Wing, this variant of our Serf Cutter produces finish quality in only one pass.

PCD grit    					
					
目录号 Cat.-No.			29-050B		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
6	32	6	100	DRB56226	7053967
10	60	10	120	DRB56227	7053968
12	75	12	120	DRB56228	7053969
20	75	20	120	DRB56229	7053970
英制 inch					
0.250	1.250	0.250	4	29-053	7053962
0.375	2.500	0.500	4	29-058	7053963
0.500	3	0.500	5	29-063	7053964
0.750	3	0.500	5	29-068	7053965
1	2	0.750	4	29-074	7053966

应用推荐参阅6-10
Application recommendations see pages 6-10

MCD Z=1    					
					
目录号 Cat.-No.			211000		
半径 Radii				LMT-Code	Ident No.
d ₁	α	d ₂	l ₁		
公制 mm					
0,1	90°	4	60	211090	2825592
0,2	60°	4	60	211060	2810944

应用推荐参阅6-10
Application recommendations see pages 6-10

目录号 Cat.-No.

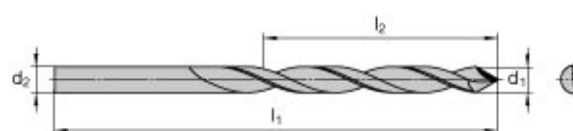
212000

半径 Radii				LMT-Code	Ident No.
d ₁	α	d ₂	l ₁		
公制 mm					
0,1	90°	4	60	212090	2825591
0,2	60°	4	60	212060	2821644

应用推荐参阅6-10
Application recommendations see pages 6-10

HSS

Z=2




目录号 Cat.-No.				70-700 70-500	
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	41	3	70	70-714	6602390
3,5	44	3,5	73	70-715	6602391
4	54	4	83	70-716	6602392
4,5	56	4,5	86	70-717	6602393
5	62	5	92	70-718	6602394
5,5	64	5,5	95	70-719	6602395
6	70	6	102	70-720	6602396
6,5	73	6,5	105	70-721	6602397
7	73	7	105	70-722	6602398
7,5	78	7,5	111	70-723	6602399
8	81	8	114	70-724	6602400
8,5	87	8,5	121	70-725	6602401
9	89	9	124	70-726	6602402
9,5	92	9,5	127	70-727	6602403
10	95	10	130	70-728	6602404
10,5	98	10,5	133	70-729	6602405
11	103	11	140	70-730	6602406
11,5	106	11,5	143	70-731	6602407
12	111	12	149	70-732	6602408
12,5	114	12,5	152	70-733	6602409
13	114	13	152	70-734	6602410
13,5	122	13,5	168	70-735	6602411
14	122	14	168	70-736	6602412
14,5	122	14,5	168	70-737	6602413
15	132	15	181	70-738	6602414
15,5	132	15,5	181	70-739	6602415
16	132	16	181	70-740	6602416
16,5	132	16,5	181	70-741	6602417
17	143	17	194	70-742	6602418
17,5	143	17,5	194	70-743	6602419
英制 inch					
0.125	1.500	0.125	2.750	70-502	7054199
0.141	1.750	0.141	2.875	70-503	7054200
0.156	1.938	0.156	3.125	70-506	7054201
0.172	1.750	0.172	3.250	70-509	7054202
0.188	2.125	0.188	3.500	70-510	7054203
0.203	2.438	0.203	3.625	70-511	7054204
0.219	2.500	0.219	3.750	70-512	7054205
0.234	2.625	0.234	3.875	70-513	7054206
0.250	2.438	0.250	4	70-514	7054207
0.266	2.875	0.266	4.125	70-515	7054208

应用推荐参阅6-10
Application recommendations see pages 6-10

HSS Z=2 h6 SP HP					
目录号 Cat.-No.				70-700 70-500	
d1	l2	d2	l1	LMT-Code	Ident No.
英制 inch					
0.281	2.938	0.281	4.250	70-516	7054209
0.297	3.063	0.297	4.375	70-517	7054210
0.313	1.750	0.250	3.875	70-520	7054211
0.328	3.313	0.328	4.625	70-521	7054212
0.344	3.438	0.344	4.750	70-522	7054213
0.359	3.500	0.359	4.875	70-523	7054214
0.375	2.250	0.250	4.375	70-524	7054215
0.391	3.750	0.391	5.125	70-525	7054216
0.406	3.875	0.406	5.125	70-526	7054217
0.422	3.938	0.422	5.375	70-527	7054218
0.438	2.500	0.250	4.750	70-528	7054219
0.453	4.188	0.453	5.625	70-529	7054220
0.469	4.313	0.469	5.750	70-530	7054221
0.484	4.375	0.484	5.875	70-531	7054222
0.500	2.625	0.250	5.125	70-532	7054223
0.516	3.125	0.500	6	70-533	7054224
0.531	3.125	0.500	6	70-534	7054225
0.547	3.125	0.500	6	70-535	7054226
0.563	3.125	0.500	6	70-536	7054227
0.578	3.125	0.500	6	70-537	7054228
0.594	3.125	0.500	6	70-538	7054229
0.609	3.125	0.500	6	70-539	7054230
0.625	3.125	0.500	6	70-540	7054231
0.641	3.125	0.500	6	70-541	7054232
0.656	3.125	0.500	6	70-542	7054233
0.672	3.125	0.500	6	70-543	7054234
0.688	3.125	0.500	6	70-544	7054235
0.703	3.125	0.500	6	70-545	7054236
0.719	3.125	0.500	6	70-546	7054237
0.734	3.125	0.500	6	70-547	7054238
0.750	3.125	0.500	6	70-548	7054239
0.766	3.125	0.500	6	70-549	7054240
0.781	3.125	0.500	6	70-550	7054241
0.797	3.125	0.500	6	70-551	7054242
0.813	3.125	0.500	6	70-552	7054243
0.828	3.125	0.500	6	70-553	7054244
0.844	3.125	0.500	6	70-554	7054245
0.859	3.125	0.500	6	70-555	7054246
0.875	3.125	0.500	6	70-556	7054247
0.891	3.125	0.500	6	70-557	7054248
0.906	3.125	0.500	6	70-558	7054249

应用推荐参阅6-10
Application recommendations see pages 6-10

HSS Z=2 h6 SP HP					
目录号 Cat.-No.				70-700 70-500	
d1	l2	d2	l1	LMT-Code	Ident No.
英制 inch					
0.922	3.125	0.500	6	70-559	7054250
0.938	3.125	0.500	6	70-560	7054251
0.953	3.125	0.500	6	70-561	7054252
0.969	3.125	0.500	6	70-562	7054253
0.984	3.125	0.500	6	70-563	7054254

应用推荐参阅6-10
Application recommendations see pages 6-10



目录号 Cat.-No.				67-900 67-800	
d1	l2	d2	l1	LMT-Code	Ident No.
公制 mm					
3	32	3	57	67-961	6602179
3,5	35	3,5	64	67-962	6602180
4	35	4	64	67-963	6602181
4,5	41	4,5	70	67-964	9088471
5	44	5	76	67-965	6602183
5,5	44	5,5	76	67-966	6602184
6	51	6	83	67-967	6602185
6,5	51	6,5	83	67-968	6602186
7	57	7	89	67-969	6602187
7,5	60	7,5	95	67-970	6602188
8	60	8	95	67-971	7053357
8,5	64	8,5	102	67-972	6602190
9	64	9	102	67-973	6602191
9,5	70	9,5	108	67-974	6602192
10	73	10	114	67-975	6602193
10,5	73	10,5	114	67-976	6602194
11	73	11	114	67-977	6602195
11,5	76	11,5	121	67-978	6602196
12	76	12	121	67-979	6602197
英制 inch					
0.125	1.250	0.125	2.250	67-807	7054127
0.141	1.375	0.141	2.500	67-808	7054128
0.156	1.375	0.156	2.500	67-809	7054129
0.172	1.625	0.172	2.750	67-810	7054130
0.188	1.625	0.188	2.750	67-811	7054131
0.203	1.750	0.203	3	67-812	7054132
0.219	1.750	0.219	3	67-813	7054133
0.234	2	0.234	3.250	67-814	7054134
0.250	2	0.250	3.250	67-815	7054135
0.266	2.125	0.266	3.500	67-816	7054136
0.281	2.125	0.281	3.500	67-817	7054137
0.297	2.375	0.297	3.750	67-818	7054138
0.313	2.375	0.313	3.750	67-819	7054139
0.328	2.500	0.328	4	67-820	7054140
0.344	2.500	0.344	4	67-821	7054141
0.359	2.500	0.359	4	67-822	7054142
0.375	2.750	0.375	4.250	67-823	7054143
0.391	2.875	0.391	4.500	67-824	7054144
0.406	2.875	0.406	4.500	67-825	7054145
0.422	2.875	0.422	4.500	67-826	7054146
0.438	2.875	0.438	4.500	67-827	7054147

应用推荐参阅6-10
Application recommendations see pages 6-10



目录号 Cat.-No.				67-800 67-900	
d1	l2	d2	l1	LMT-Code	Ident No.
公制 mm					
0.453	3	0.453	4.750	67-828	7054148
0.469	3	0.469	4.750	67-829	7054149
0.484	3	0.484	4.750	67-830	7054150
0.500	3	0.500	4.750	67-831	7054151



这款钻头设计减小了切削力，并在刀具钻通材料时可以消除分层。
Designed to reduce cutting forces and to eliminate delamination when exiting the material.

应用推荐参阅6-10
Application recommendations see pages 6-10

Solid Carbide Z=2					
目录号 Cat.-No.			86-000		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
2,5	25	2,5	52	SCD56273	7054181
3	32	3	57	SCD56274	7054182
4	35	4	64	SCD56275	7054183
5	44	5	76	SCD56276	7054184
6	51	6	83	SCD56277	7054185
8	60	8	95	SCD56278	7054186
10	73	10	114	SCD56279	7054187
12	76	12	121	SCD56280	7054188
英制 inch					
0.0995	1.250	0.099	2.250	86-002	7054189
0.125	1.250	0.125	2.250	86-004	7054190
0.129	1.250	0.129	2.250	86-006	7054191
0.147	1.375	0.147	2.500	86-008	7054192
0.188	1.625	0.188	2.750	86-010	7054193
0.250	2	0.250	3.250	86-012	7054194
0.313	2.375	0.313	3.750	86-014	7054195
0.375	2.750	0.375	4.250	86-016	7054196
0.438	2.875	0.438	4.500	86-018	7054197
0.500	3	0.500	4.750	86-020	7054198



这款刀具的设计是为了在Kevlar/Aramid材料上钻削光洁的孔，特殊的钻尖设计便于剪切芳纶纤维，消除须状和分层现象。

This tool is designed to drill Kevlar/Aramid materials and produce a clean hole. The specific point design shears the aramid fibers eliminating whiskers or delamination.

应用推荐参阅6-10
Application recommendations see pages 6-10

Solid Carbide Z=2					
目录号 Cat.-No.			86-100		
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	20	3	60	DFC56281	7054160
4	20	4	60	DFC56282	7054161
5	20	5	60	DFC56283	7054162
6	25	6	74	DFC56284	7054163
8	25	8	74	DFC56285	7054164
10	25	10	74	DFC56286	7054165
12	25	12	74	DFC56287	7054166
英制 inch					
0.100	1	0.250	3	86-102	7054152
0.129	1	0.250	3	86-106	7054153
0.147	1	0.250	3	86-110	7054154
0.192	1	0.250	3	86-114	7054155
0.251	1	0.250	3	86-118	7054156
0.313	1	0.313	3	86-122	7054157
0.376	1	0.375	3	86-126	7054158
0.502	1	0.500	3	86-130	7054159

应用推荐参阅6-10
Application recommendations see pages 6-10

目录号 Cat.-No.					494000	
d ₁	l ₂	d ₂	l ₁	内冷 Internal coolant	LMT-Code	Ident No.
公制 mm						
3	12	4	46	无 no	494030	2864682
3,5	15	4	52		494035	2820708
4	17	4	55	有 yes	494040	2820718
4,5	18	6	58		494045	2820720
5	20	6	62		494050	2864683
5,5	21	6	66		494055	2820722
6	21	6	66		494060	2864684
6,5	23	8	70		494065	2820726
7	25	8	74		494070	2864685
7,5	25	8	74		494075	2864686
8	27	8	79		494080	2820728
8,5	27	10	79		494085	2820734
9	29	10	84		494090	2864687
9,5	29	10	84		494095	2864688
10	31	10	89		494100	2864689
10,5	31	12	89		494105	2820736
11	33	12	95		494110	2864690
11,5	33	12	95		494115	2864691
12	35	12	102		494120	2864692
12,5	35	16	102		494125	2820738
13	35	16	102		494130	2864693
13,5	37	16	107		494135	2864694
14	37	16	107		494140	2864695
14,5	37	16	107		494145	2820740
15	38	16	115		494150	2864696
15,5	38	16	115		494155	2864697
16	38	16	115		494160	2864698
16,5	40	20	120		494165	2864699
17	40	20	120		494170	2864700
17,5	40	20	120		494175	2864702
18	42	20	124		494180	2864703
18,5	42	20	124		494185	2864704
19	44	20	131		494190	2864705
19,5	44	20	131		494195	2864706
20	46	20	131		494200	2864707
英制 inch						
0.125	0.500	0.156	1.750	无 no 有 yes	494317	2864708
0.250	0.875	0.250	2.625		494635	2864709
0.500	1.375	0.625	4		494127	2864710
0.625	1.500	0.625	4.500		494159	2864711

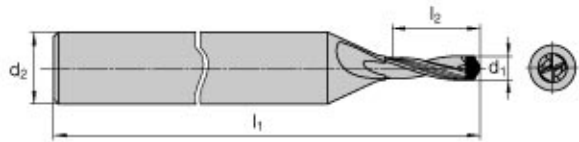
应用推荐参阅6-10
Application recommendations see pages 6-10

目录号 Cat.-No.

68-900

d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
3	20	3	60	PCD56288	7054175
4	20	4	60	PCD56289	7054176
5	20	5	60	PCD56290	7054177
6	25	6	74	PCD56291	7053353
8	25	8	74	PCD56292	7054178
10	25	10	74	PCD56293	7054179
12	25	12	74	PCD56294	7054180
英制 inch					
0.100	1	0.250	3	68-902	7054167
0.129	1	0.250	3	68-904	7054168
0.147	1	0.250	3	66-908	7054169
0.192	1	0.250	3	68-910	7054170
0.251	1	0.250	3	68-914	7054171
0.313	1	0.313	3	68-918	7054172
0.376	1	0.375	3	68-922	7054173
0.502	1	0.500	3	68-926	7054174

应用推荐参阅6-10
Application recommendations see pages 6-10



目录号 Cat.-No.

493000

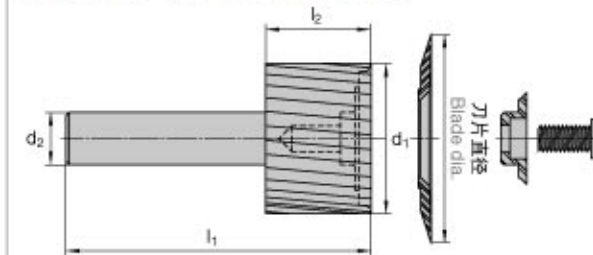
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
公制 mm					
0,8	3	3	38	493008	2864651
0,9	3	3	38	493009	2864653
1	4	3	38	493010	2821640
1,1	4	3	38	493011	2864661
1,2	4	3	38	493012	2864662
1,3	4	3	38	493013	2864663
1,4	4	3	38	493014	2864664
1,5	4	3	38	493015	2864665
1,6	5	3	38	493016	2864666
1,7	5	3	38	493017	2864667
1,8	5	3	38	493018	2864668
1,9	5	3	38	493019	2700010
2	5	3	38	493020	2864669
2,1	5	3	38	493021	2864670
2,2	5	3	38	493022	2864671
2,3	5	3	38	493023	2864672
2,4	5	3	38	493024	2864673
2,5	5	3	38	493025	2864674
2,6	5	3	38	493026	2864675
2,7	5	3	38	493027	2864676
2,8	5	3	38	493028	2864677
2,9	5	3	38	493029	2864678
公制 mm					
0.031	0.125	0.125	1.500	493008A	2864679
0.063	0.188	0.125	1.500	493016A	2864680
0.094	0.188	0.125	1.500	493024A	2864681



LMT贝宁的这款刀具方案，可以用于小于3mm直径的PCD钻头；这需要感谢我们的新焊接技术，我们能实现在整体PCD材料上磨出一个钻尖，然后焊接在整体硬质合金刀柄上。

LMT BELIN has found a solution that will allow you to drill hole diameters smaller than 3 mm also with the performance of a PCD tool: Thanks to our new brazing technique, we are able to realize a drilling point in monolithic PCD, brazed on a solid carbide shank.

应用推荐参阅6-10
Application recommendations see pages 6-10



目录号 Cat.-No.

29-050

d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
英制 inch					
0.250	1.250	0.250	4	29-052	7054036
0.345	2.500	0.500	4	29-057	7054037
0.470	3	0.500	5	29-062	7054038
0.720	3	0.500	5	29-067	7054039
0.970	1	0.500	3	29-072	7054040
0.970	2	0.750	5	29-073	7054041
1.470	1	0.250	3	29-078	7054042
1.470	2	0.750	5	29-079	7054043
1.742	1	0.500	3	29-083	7054044
1.742	2	0.750	5	29-084	7054045
1.970	1	0.625	3	29-088	7054046
1.970	2	0.750	5	29-089	7054047
2.450	1	0.625	3	29-093	7054048
2.970	1	0.750	3	29-095	7054049
2.970	1	0.750	4	29-096	7054050
3.970	1	0.750	3	29-098	7054051
3.970	1	0.750	4	29-099	7054052



金钢石砂粒用于研磨芯部(石墨,酚醛树脂或玻璃纤维),以便达到较长的刀具寿命。现有球头系列,作为传统的切碎刀也可安装现有的蜂窝刀片。

大直径刀具重量减少了35%。这使得该刀具在3轴或5轴机床上能够获得更好的性能。

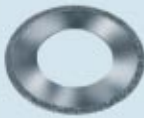
Diamond grit hoggers are used on abrasive cores (graphite, phenolic, or fiberglass) in order to achieve long tool life. The tools are available in a ball nose version and as a traditional hogger capable of holding existing honeycomb blades.

A 35 % weight reduction has been designed into the larger diameter tools resulting in better performance on 3 or 5 axis machines.

应用推荐参阅6-10
Application recommendations see pages 6-10

刀片选项

Cutting blade options

所配刀具 for tool	刀片直径 Blade dia. 公制 mm 英制 inch	HSS 	HSS 	Solid Carbide 	Solid Carbide 	PCD grit 	HSS 
		高速钢刀片 HSS	高速钢带齿刀片 HSS with teeth	硬质合金刀片 Solid carbide	硬质合金带齿 SC with teeth	金钢石刀片 diamond plated	高速钢锯片 HSS saw
		LMT-Code Ident No.					
29-083	45	—	—	30-026 7054084	30-326 7054113	30-126 7054096	30-226 7054103
29-084	45	—	—	—	—	—	—
29-093	63	—	—	30-036 7054088	30-336 7054115	30-136 7054098	30-236 7054105
29-052	—	—	—	—	—	—	—
29-057	0.375	30-016 7054079	30-316 7054109	—	—	—	—
29-062	0.500	30-017 7054080	30-317 7054110	—	—	—	—
29-067	0.750	—	—	30-015 7054078	30-318 7054111	—	—
29-072	1	—	—	30-012 7054076	30-313 7054107	30-113 7054093	30-213 7054100
29-073	1	—	—	—	—	—	—
29-078	1.500	—	—	30-014 7054077	30-314 7054108	30-114 7054094	30-214 7054101
29-079	1.500	—	—	—	—	—	—
29-088	2	—	—	30-022 7054083	30-322 7054112	30-122 7054095	30-222 7054102
29-089	2	—	—	—	—	—	—
29-095	3	—	—	30-032 7054087	30-332 7054114	30-132 7054097	30-232 7054104
29-096	3	—	—	—	—	—	—
29-098	4	—	—	30-042 7054091	30-342 7054116	30-142 7054099	30-242 7054106
29-099	4	—	—	—	—	—	—

连接环 Adapter ring			螺钉 Screw		
适用刀具 for tool			适用刀具 for tool		
LMT-Code	Ident No.		LMT-Code	Ident No.	
29-057 to 29-073	—	—	29-057 to 29-062	HRD51646	7054126
29-078 to 29-089	30-020-3	7054081	29-067 to 29-073	30-011-2	7054075
29-093 to 29-096	30-030-3	7054085	29-078 to 29-089	30-020-4	7054081
29-098 to 29-099	30-040-3	7054089	29-093 to 29-096	30-030-4	7054085
			29-098 to 29-099	30-040-4	7054089

目录号 Cat.-No.			
30-000			
d1	d2	LMT-Code	Ident No.
公制 mm			
25	12	SAA56295	7054070
45	12	SAA56296	7054071
63	12	SAA56297	7054072
英制 inch			
1	0.500	30-011	7054066
2	0.500	30-021	7054067
3	0.500	30-031	7054068
4	0.500	30-041	7054069

铣刀片选择 Cutting blade options						
所配刀具 for tool	刀片直径 Blade dia. 公制 mm 英制 inch					
			整体硬质合金 Solid carbide	带齿刀片 SC with teeth	金钢石刀片 diamond plated	高速钢锯片 HSS saw
	LMT-Code Ident No.					
SAA56295	25	HCC56223 7054063		—	HCC56224 7054064	HCC56225 7054065
SAA56296	45	30-026 7054084		30-326 7054113	30-126 7054096	30-226 7054103
SAA56297	63	30-036 7054088		30-336 7054115	30-136 7054098	30-236 7054105
30-011	1"	30-012 7054076		30-313 7054107	30-112 7054092	30-213 7054100
30-021	2"	30-022 7054083		30-322 7054112	30-122 7054095	30-222 7054102
30-031	3"	30-032 7054087		30-332 7054114	30-132 7054097	30-232 7054104
30-041	4"	30-042 7054091		30-342 7054116	30-142 7054099	30-242 7054106

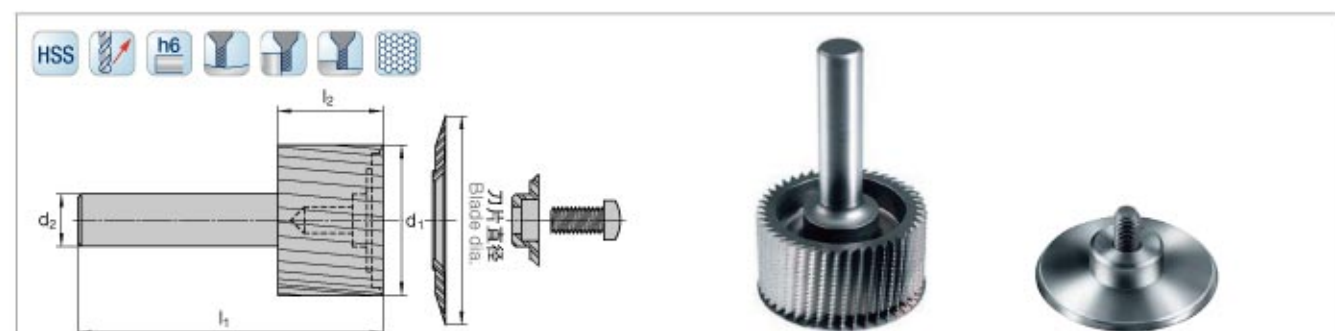
连接环 Adapter ring			螺钉 Screw		
适用刀具 for tool			适用刀具 for tool		
LMT-Code	Ident No.		LMT-Code	Ident No.	
30-011	—	—	30-011	30-011-2	7054075
30-021	30-020-3	7054081	30-021	30-020-4	7054082
30-031	30-030-3	7054085	30-031	30-030-4	7054086
30-041	30-040-3	7054089	30-041	30-040-4	7054090
SAA56295	—	—	SAA56295	30-011-2	7054075
SAA56296	30-020-3	7054081	SAA56296	30-020-4	7054082
SAA56297	30-030-3	7054085	SAA56297	30-030-4	7054086

i 这些刀具用来外形修整，雕刻和倒角直径可到1/4英寸或更小的尺寸，其特有的专利设计夹持系统能有效的阻止碎裂的刀片飞出，损坏零件。

由于高速钢锯片和金钢石刀片在底部成碟状，所以它们可以像硬质合金环一样对所切削的芯体进行清边加工，并且这个硬质合金环可以修磨数次，更加经济实用。

These tools are for contouring, carving and chamfering cuts of .25" or less. The unique patented holding system prevents the solid carbide blades from coming out of the holder if it is fractured.

The HSS saw blades and the diamond plated blades dish on the bottom so they clear the cut core finish like the hollow ground solid carbide style rings. The solid carbide rings may be reground several times at the factory making them very economical to use.



目录号 Cat.-No.				30-700	
d ₁	l ₂	d ₂	l ₁	LMT-Code	Ident No.
英制 inch					
0.345	1	0.500	3	30-703	7054053
0.470	1	0.500	3	30-705	7054054
0.720	1	0.500	3	30-707	7054055
0.970	1	0.500	3	30-710	7054056
1.470	1	0.500	3	30-715	7054057
1.742	1	0.500	3	30-720	7054058
1.970	1	0.625	3	30-725	7054059
2.450	1	0.625	3	30-730	7054060
2.970	1	0.750	3	30-735	7054061
3.970	1	0.750	3	30-740	7054062

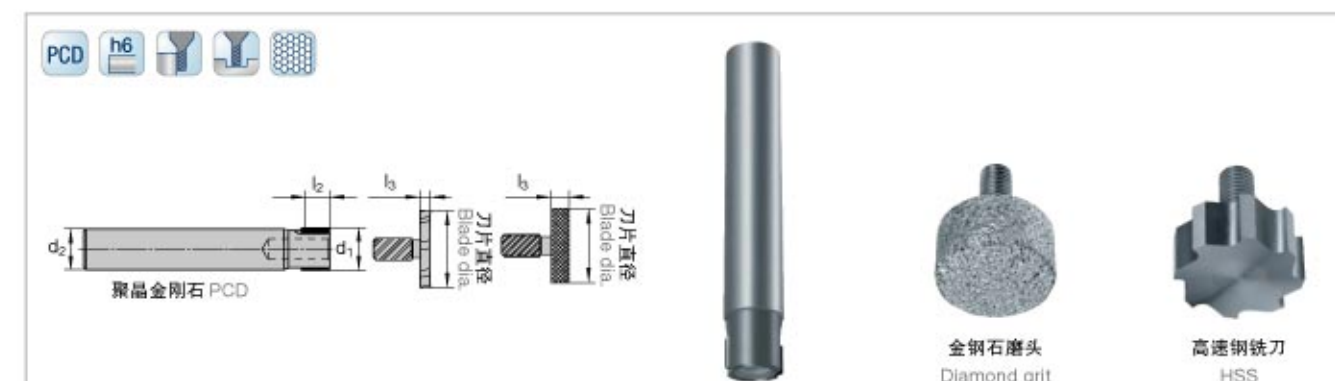
铣刀片选择 Cutting blade options							
所配刀具 for tool	刀片直径 Blade dia. 公制 mm 英制 inch	HSS 高速钢 HSS	HSS 高速钢带齿刀片 HSS with teeth	Solid Carbide 硬质合金刀片 Solid carbide	Solid Carbide 硬质合金带齿 SC with teeth	PCD 金刚石刀片 diamond plated	HSS 高速钢锯片 HSS saw
30-720	45	-	-	30-026 7054084	30-326 7054113	30-126 7054096	30-226 7054103
30-730	63	-	-	30-036 7054088	30-336 7054115	30-136 7054098	30-236 7054105
30-703	0.375	30-016 7054079	30-316 7054109	-	-	-	-
30-705	0.500	30-017 7054080	30-317 7054110	-	-	-	-
30-707	0.750	-	-	30-015 7054078	30-318 7054111	-	-
30-710	1	-	-	30-012 7054076	30-313 7054107	30-113 7054093	30-213 7054100
30-715	1.500	-	-	30-014 7054077	30-314 7054108	30-114 7054094	30-214 7054101
30-725	2	-	-	30-022 7054083	30-322 7054112	30-122 7054095	30-222 7054102
30-735	3	-	-	30-032 7054087	30-332 7054114	30-132 7054097	30-232 7054104
30-740	4	-	-	30-042 7054091	30-342 7054116	30-142 7054099	30-242 7054106

连接环 Adapter ring			螺丝 Screw		
适用刀具 for tool	LMT-Code	Ident No.	适用刀具 for tool	LMT-Code	Ident No.
30-703 to 30-710	-	-	30-703 to 30-705	HRD51646	7054126
30-715 to 30-725	30-020-3	7054081	30-707 to 30-710	30-011-2	7054075
30-730 to 30-740	30-030-3	7054085	30-715 to 30-725	30-020-4	7054082
			30-730 to 30-735	30-030-4	7054086
			30-740	30-040-4	7054090

i 在大直径刀中，设计重量减少了35%，这使得其在3轴或5轴机床上能得到更好的性能，新型的刀型和排屑槽设计减少了加工中零件的带动和摆动，现有的蜂窝刀片也可以安装在这些铣刀上。

35 % weight reduction has been designed into the larger diameter tools resulting in better performance on 3 or 5 axis machines. Part lifting and flagging have also been reduced due to the new tooth and flute design. Existing honeycomb blades will mount on these hoggers.

应用推荐参阅6-10
Application recommendations see pages 6-10



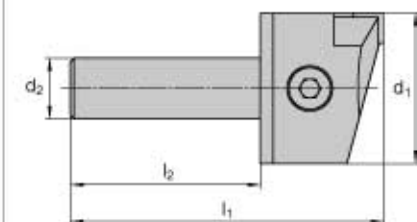
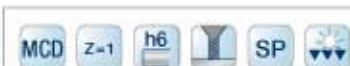
目录号 Cat.-No.			34-000	
d ₁	l ₂	d ₂	LMT-Code	Ident No.
公制 mm 英制 inch				
0.500	non-cutting	0.500	34-008	7053359
0.500	0.250 PCD	0.500	34-010	7054073
12.70 mm	6.35 mm PCD	12 mm	PCS56298	7054074

铣刀片选项 Cutting blade options				
刀片直径 Blade dia. 英制 inch	l ₃ 英制 inch	材料 Material	LMT-Code	Ident No.
0.875	0.130	金刚石砂粒 Diamond grit	34-022	7054117
0.875	0.250		34-024	7054118
0.875	0.380		34-026	7054119
0.875	0.500		34-028	7054120
0.875	0.630		34-030	7054121
0.875	0.130	高速钢铣刀 HSS	34-042	7054122
0.875	0.250		34-044	7054123
0.875	0.380		34-046	7053370
0.875	0.500		34-048	7054124
0.875	0.630		34-050	7054125

i 该模块化刀具是为在复合材料板上铣削槽T型设计，紧接着进行化合物封装，从而加固边缘，刀具由一个PCD刀和螺栓固定的金刚石磨粒头或者高速钢刀具组合而成。

This modular tool is designed to produce undercut slots in composite panels so potting compound can be applied to strengthen the edge. This tool consists of an arbor optionally PCD tipped which accepts a diamond grit or HSS under cutting tool to be screwed into it.

应用推荐参阅6-10
Application recommendations see pages 6-10



目录号 Cat.-No.					98100	
d ₁	l ₂	d ₂	l ₁	r	LMT-Code	Ident No.
公制 mm						
12	8	25	41	0,5	98106	2709463
20	8	25	41	0,5	98107	2709464
12	8	25	41	1	98108	2709465
20	8	25	41	1	98109	2709466
12	8	25	41	–	98110	2709467
20	8	25	41	–	98111	2709468

应用推荐参阅8-10
Application recommendations see pages 8-10

LMT刀具集团不仅为您提供全面的标准刀具，而且还可以根据不同要求非标定制复合材料和塑料加工刀具。

例如用于加工碳纤维增强塑料和铝合金或钛合金在一起堆叠的复合材料的镗钻和铰刀，深孔刀具或其它特殊刀具。

依据具体的零件，所有刀具可以为整体硬质合金、DCF或PVD涂层、焊接三明治PCD钻尖或焊接PCD。

针对特定切削条件和工件材料，我们通过特殊的刀具设计同样可以完成标准的铣削流程。合适的切削材料选择、定制的工具几何槽型、最佳的冷却和良好的排屑都是客户至上理念的重要组成部分。

请把您的需求发给我们—请根据我们的要求填写附录表格。



DFC复合钻铰刀
用于碳铝复合板
DFC Oneshot drills
for CFRP aluminium stacks



PCD复合钻铰刀
用于碳钛复合板
PCD Oneshot drill
for CFRP titanium stacks



为碳纤维复合材料设计的带倒角PCD铰刀
PCD reamer with chamfer
for CFRP stacks



专门加工玻纤增强材料的PCD深孔钻
PCD deep hole drill
for fiber reinforced structures



PCD深孔钻在氟氢材料上的应用
PCD deep hole drill
for CFC applications



硬质合金匕首钻，用于飞机装配复合材料加工
SC drill, high precise
for Aerospace applications



硬质合金加长球头铣刀，专为高性能塑料型面加工设计
SC ball nose mill, extra long
for high performance plastics



专门加工树脂的硬质合金铣刀
SC torus mill
for polycarbonate



PCD铣刀用来加工聚醚醚酮-碳纤维工作
PCD mill
for PEEK-CFRP workpieces



PCD槽铣刀在碳纤维加工上应用
PCD orbital mill
for CFRP applications



加工玻纤增强结构件的PCD铣刀
PCD form milling cutter
for fiber reinforced panels



加工塑料的SC边铣刀
SC side milling cutter
for plastics

LMT 刀具集团把“复合材料与塑料” – 行业里的非铁金属三维形状加工的特殊应用综合在“模具”这概念下。这个应用领域不仅包括传统的模具制造、用泡沫和树脂制造模型与样机、快速原型设计，而且包括如G10或G11的高密度玻璃纤维化合物制造的模具和高要求的形状加工系统，例如医学方面的塑料膝关节假体。

LMT 刀具集团的业务权限范围

我们的模具专家LMT Kieninger(基宁格)和LMT Fette(菲特)共同为模型与样机制造系统提供铣削的标准服务。基宁格也为三维形状加工系统制造特定应用的PCD非标刀具和PCD镶刀片刀具。热塑性材料专家LMT Onsrud(昂思路)为模具制造行业与医学系统提供整体硬质合金的成形铣刀等刀具。

Inside the new segment for Composites & Plastics machining, LMT Tool Systems has also joined its competences in machining 3D geometries in various non-metal materials under the title "Die and Mould". This particular field of applications covers any classic die-and-mould machining, e. g. for mock-ups, prototypes, prototype moulds or casting models, mostly using foams or resins, but it also is dedicated to milling of forms and moulds made of high-density fibreglass compounds like G10 or G11 and finally very similar applications may also be found in other industries like e. g. finishing of plastic inlays for knee prostheses.

The cutting tool competence of LMT Tool Systems

LMT Kieninger – our specialist for Die and Mould making – offers, in cooperation with LMT Fette milling specialists, a complete standard milling programme dedicated to all prototype and mould makers. Specific PCD tools and PCD tipped inserts do complete this offer for 3D milling.

LMT Onsrud – our specialist for thermoplastics machining has created a particular offer of solid carbide tools for mould making and medical industry.

非标铣刀询价单 Inquiry form custom mill

请填写下面表格并发送到: Please fill out the form and send at :
电子邮箱 Email: composite.cn@lmt-tools.com
传真 Fax: 025-52106376

客户信息 Customer information

公司名 Company	联系人 Contact person
地址 Address	电话 Phone
	邮件 E-Mail

工件信息 Workpiece information

被加工材料 Material to be machined	切宽 Width of cut
强度 Strength	切深 Depth of cut
加工形式 Machining operation	其它信息 Additional information

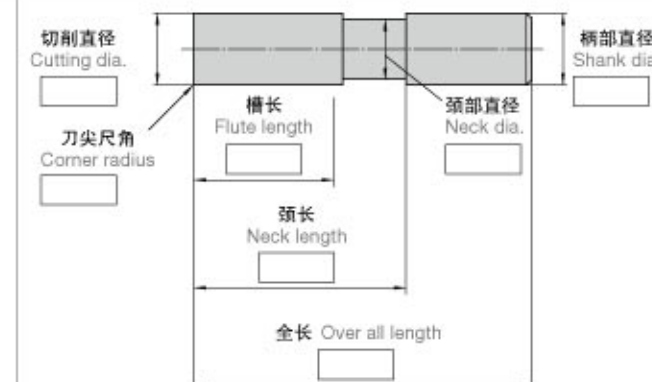
机床数据 Machine

机床型号 Machine type	工件夹紧方式 Workpiece clamping
加工位置 Treatment position	其它信息 Additional information
纵向 Max. spindle speed (RPM)	

刀具数据 Tool data

数量 Quantity	齿数 Number of teeth
材料 Cutting material	夹持形式 Shank style
涂层型号 Coating	冷却系统 Cooling system
螺旋 Helix	刀具形式(类似于.....型号) Tool similar to
过中心切削? Center cutting?	

通用信息 General information



非标钻头询价单
Inquiry form custom drill



请填写以下发送到: Please fill out the form and send at:
电子邮箱 Email: composite.cn@lmt-tools.com
传真 Fax: 025-52106376

客户信息 Customer information	
公司名 Company	联系人 Contact person
地址 Adress	电话 Phone
	邮件 E-Mail

工件信息 Workpiece information	
被加工材料 Material to be machined	钻削类型 Drilling type
强度 Strength	附加信息 Additional information
孔深 Depth of hole	

机床数据 Machine	
机床型号 Machine type	工件夹紧方式 Workpiece clamping
加工位置 Treatment position	☐ 水平方向 horizontal ☐ 纵向 vertical
主轴转速 Max. spindle speed (RPM)	其他信息 Additional information

刀具数据 Tool data	
数量 Quantity	冷却系统 Cooling system
材料 Cutting material	刀具形式 (类似于.....型号) Tool similar to
涂层型号 Coating	
齿数 Number of teeth	附加信息 Additional information
夹持类型 Shank style	

通用信息 General information	

公英制单位换算表
Conversion table inch I metric



1.00 inch = 0,0254 m = 2,5400 cm = 25,400 mm				
inch	inch	mm	inch (mm)	mm (inch)
$\frac{3}{16}$	0.1875	4,7625	0.1875 (4,7625)	4,7625 (0.1875)
$\frac{1}{4}$	0.25	6,35	0.25 (6,35)	6,35 (0.25)
$\frac{5}{16}$	0.3125	7,9375	0.3125 (7,9375)	7,9375 (0.3125)
$\frac{3}{8}$	0.375	9,525	0.375 (9,525)	9,525 (0.375)
$\frac{7}{16}$	0.4375	11,1125	0.4375 (11,1125)	11,1125 (0.4375)
$\frac{1}{2}$	0.5	12,7	0.5 (12,7)	12,7 (0.5)
$\frac{5}{8}$	0.625	15,875	0.625 (15,875)	15,875 (0.625)
$\frac{3}{4}$	0.75	19,05	0.75 (19,05)	19,05 (0.75)
$\frac{7}{8}$	0.875	22,225	0.875 (22,225)	22,225 (0.875)
1"	1	25,4	1 (25,4)	25,4 (1)
1 $\frac{1}{4}$	1.25	31,75	1.25 (31,75)	31,75 (1.25)
1 $\frac{1}{2}$	1.5	38,1	1.5 (38,1)	38,1 (1.5)
1 $\frac{3}{4}$	1.75	44,45	1.75 (44,45)	44,45 (1.75)
2"	2	50,8	2 (50,8)	50,8 (2)
2 $\frac{1}{4}$	2.25	57,15	2.25 (57,15)	57,15 (2.25)
2 $\frac{1}{2}$	2.5	63,5	2.5 (63,5)	63,5 (2.5)
2 $\frac{3}{4}$	2.75	69,85	2.75 (69,85)	69,85 (2.75)
3"	3	76,2	3 (76,2)	76,2 (3)
3 $\frac{1}{4}$	3.25	82,55	3.25 (82,55)	82,55 (3.25)
3 $\frac{1}{2}$	3.5	88,9	3.5 (88,9)	88,9 (3.5)
3 $\frac{3}{4}$	3.75	95,25	3.75 (95,25)	95,25 (3.75)
4"	4	101,6	4 (101,6)	101,6 (4)
4 $\frac{1}{4}$	4.5	114,3	4.5 (114,3)	114,3 (4.5)
4 $\frac{1}{2}$	5	127	5 (127)	127 (5)
4 $\frac{3}{4}$	5.5	139,7	5.5 (139,7)	139,7 (5.5)
6"	6	152,4	6 (152,4)	152,4 (6)
6 $\frac{1}{2}$	6.5	165,1	6.5 (165,1)	165,1 (6.5)
7"	7	177,8	7 (177,8)	177,8 (7)
7 $\frac{1}{2}$	7.5	190,5	7.5 (190,5)	190,5 (7.5)
8"	8	203,2	8 (203,2)	203,2 (8)
8 $\frac{1}{2}$	8.5	215,9	8.5 (215,9)	215,9 (8.5)
9"	9	228,6	9 (228,6)	228,6 (9)
9 $\frac{1}{2}$	9.5	241,3	9.5 (241,3)	241,3 (9.5)
10"	10	254	10 (254)	254 (10)
10 $\frac{1}{2}$	10.5	266,7	10.5 (266,7)	266,7 (10.5)
11"	11	279,4	11 (279,4)	279,4 (11)
11 $\frac{1}{2}$	11.5	292,1	11.5 (292,1)	292,1 (11.5)
12"	12	304,8	12 (304,8)	304,8 (12)
12 $\frac{1}{2}$	12.5	317,5	12.5 (317,5)	317,5 (12.5)
13"	13	330,2	13 (330,2)	330,2 (13)
13 $\frac{1}{2}$	13.5	342,9	13.5 (342,9)	342,9 (13.5)
14"	14	355,6	14 (355,6)	355,6 (14)
14 $\frac{1}{2}$	14.5	368,3	14.5 (368,3)	368,3 (14.5)
15"	15	381	15 (381)	381 (15)