

ドイツのベルリンカーバイド

BERLIN CARBIDE in Germany



ドイツ
Germany

Gühring KG
超硬材営業部
Division Carbides
info@berlin-carbide.com



BERLIN CARBIDE
GERMAN CARBIDE

GÜHRING KG

超硬材営業部

ベルリン事務所

Lübarser Straße 10-38
13435 Berlin
Phone +49 30 40803-31117
Fax +49 30 40803-31118

アルプシュタット事務所

Hahnstraße 53
72461 Albstadt
Phone +49 7431 17-25298
Fax +49 7431 17-25189

info@berlin-carbide.com
berlin-carbide.com

GUHRING JAPAN CO., LTD.
3-24-5, Tsukishima,
Chuo-ku, Tokyo 104-0052
Phone +81-3-3536-2800
Fax +81-3-3536-2805

JP/V419



BERLIN CARBIDE
GERMAN CARBIDE

カタログ
CATALOGUE

精密工具用
超硬素材

CARBIDES
FOR PRECISION CUTTING TOOLS



BERLIN CARBIDE
GERMAN CARBIDE

製品一覧表 | Item overview

材種 Grade	DK400N	DK120	DK460UF	DK500UF	DK255F	DK256EH	DK120UF	K55SF	ページ Page
一体素材 Solid rods									
長さ Length	330mm	330mm	415mm	100mm	700mm	330mm	330mm	330mm	330mm
未研磨材 raw		7021	7014						14-15
研磨材 径公差h6 ground h6		7031	7075	7354	7085		7372	7032	7187
研磨材 径公差h6、インチサイズ ground h6, in inches			7932						17
オイルホール付き素材 Rods with coolant ducts									
長さ Length	330mm	330mm	415mm	100mm	700mm	330mm	330mm	330mm	330mm
未研磨材、1穴センターストレート raw, central			7387	7987				7380	18
研磨材 径公差h6、1穴センターストレート ground h6, central			7339						19
未研磨材、2穴バラレルストレート raw, parallel			7301	7309					20-21
研磨材 径公差h6、2穴バラレルストレート ground h6, parallel			7302						22-23
未研磨材、2穴15°ねじれ raw, 2x15°			7945	7947					24
研磨材 径公差h6、2穴15°ねじれ ground h6, 2x15°			7583						25
未研磨材、2穴30°ねじれ raw, 2x30°			7940	7353	7074		7370		26-28
研磨材 径公差h6、2穴30°ねじれ ground h6, 2x30°			7328	7355					29
未研磨材 2穴40°ねじれ raw, 2x40°			7935	7385			7397		30-31
研磨材 径公差h6、2穴40°ねじれ ground h6, 2x40°			7330						32
マイクロツイストタイプ microtwisted			7039						33
未研磨材、3穴30°ねじれ raw, 3x30°			7933	7383					34
研磨材 径公差h6、3穴30°ねじれ ground h6, 3x30°			7358						35
未研磨材 3穴40°ねじれ raw, 3x40°			7934	7384					36
研磨材 径公差h6、3穴40°ねじれ ground h6, 3x40°			7359						37
エンドミル用素材 Milling cutter blanks									
研磨材 径公差h6、片側面取り ground h6, chamfered one end			7540					7556	38-42
研磨材 径公差h6、片側面取りインチサイズ ground h6, in inches, chamfered one end	7541								44
研磨材 径公差h6、外径吐出 3オイルホール付き ground h6, axial coolant duct + 3 lat. exits			7923						46
研磨材 径公差h6、外径吐出 4オイルホール付き ground h6, axial coolant duct + 4 lat. exits			7924						46
研磨材 径公差h6、外径吐出 5オイルホール付き ground h6, axial coolant duct + 5 lat. exits			7925						46
ドリル用素材 Drill blanks									
研磨材 径公差h6、3xD用、 2穴30°ねじれ、片側面取り ground h6, 3xD, 2x30°, chamfered one end			7915						47
研磨材 径公差h6、5xD用、 2穴30°ねじれ、片側面取り ground h6, 5xD, 2x30°, chamfered one end			7916						48
研磨材 径公差h6、7xD用、 2穴30°ねじれ、片側面取り ground h6, 7xD, 2x30°, chamfered one end			7349						49
ご希望に応じて On request									50-51



超硬材種仕様 | Grade specifications

材種 Grade	DK400N	DK120	DK460UF	DK500UF	DK255F	DK256EH	DK120UF	K55SF
ISO規格 Classification	K20-K40	K15-K20	K20-K40	K20-K30	K20	K20	K10	K05-K10
コバルト含有量 % Cobalt content	10.0	6.0	10.0	12.0	8.0	8.0	7.0	9.0
HV30ピッカース硬さ Hardness HV30	1580	1620	1620	1690	1720	1790	1850	1920
平均粒径 Average Grain Size	0.70	1.20	0.60	0.50	0.70	0.60	0.70	0.20

公差 | Tolerances

L mm	mm
330	+10 0
415	+26 0
700	+70 0

超硬素材、未研磨
Rods, raw,
solid or with coolant
ducts

D h6 mm	mm	O mm
6.0	0.10	0.002
8.0	0.06	0.003
10.0	0.06	0.003
12.0	0.03	0.003
14.0	0.03	0.003
16.0	0.03	0.003
18.0	0.02	0.003
20.0	0.03	0.004

研磨材、径公差 h6
415 mm⁺¹⁰₀
Rods, ground to
tolerance h6,
415 mm⁺¹⁰₀
solid or with cool-
ant ducts

研磨材 径公差 h6、330mm⁺¹⁰₀
Rods, ground to tolerance h6,
330mm⁺¹⁰₀, solid or with coolant ducts

D h6 mm	mm	O mm
1.0	0.25	0.030
1.5	0.25	0.030
2.0	0.25	0.030
3.0	0.11	0.002
3.175	0.11	0.002
3.5	0.11	0.002
4.0	0.11	0.002
4.5	0.11	0.002
4.763	0.11	0.002
5.0	0.11	0.002
5.5	0.11	0.002
6.0	0.11	0.002
6.350	0.11	0.003
6.5	0.11	0.003
7.0	0.11	0.003
7.5	0.06	0.003
7.938	0.06	0.003
8.0	0.06	0.003
8.5	0.06	0.003
9.0	0.06	0.003
9.5	0.06	0.003
9.525	0.06	0.003

D h6 mm	mm	O mm
10.0	0.06	0.003
10.5	0.05	0.003
11.0	0.05	0.003
11.113	0.05	0.003
11.5	0.05	0.003
12.0	0.05	0.003
12.5	0.05	0.003
12.700	0.05	0.003
13.0	0.05	0.003
13.5	0.05	0.003
14.0	0.04	0.003
14.288	0.04	0.003
14.5	0.04	0.003
15.0	0.04	0.003
15.5	0.04	0.003
15.875	0.04	0.003
16.0	0.04	0.003
16.5	0.04	0.003
17.0	0.02	0.003
17.5	0.02	0.003
18.0	0.02	0.003
18.5	0.02	0.004

D h6 mm	mm	O mm
19.0	0.02	0.004
19.050	0.02	0.004
19.5	0.02	0.004
20.0	0.02	0.004
21.0	0.02	0.004
22.0	0.02	0.004
22.225	0.02	0.004
23.0	0.02	0.004
24.0	0.02	0.004
25.0	0.02	0.004
25.400	0.02	0.004
26.0	0.02	0.005
27.0	0.02	0.005
28.0	0.02	0.005
29.0	0.02	0.005
30.0	0.02	0.005
31.0	0.02	0.005
32.0	0.02	0.005
34.0	0.02	0.006
40.0	0.02	0.006

円筒度 | Circular run-out
真円度 | Roundness

アルゼンチン | Argentina
Guhring Argentina S. A.
guhringargentina@guehring.de

オーストラリア | Australia
Guhring Pty. Ltd.
guhring@guhring.com.au

ベルギー | Belgium
N. V. Gühring S.A.
info@guehring.be

ブラジル | Brazil
Guhring Brasil
vendas@guhring-brasil.com

ブルガリア | Bulgaria
Gühring Bulgarien Ltd.
info@guehring-bg.net

中国 | China
Guhring (Changzhou)
Cutting Tools Co., Ltd.
info@guhringchina.com

デンマーク | Denmark
Gühring ApS
info@guehring.dk

ドイツ | Germany
Gühring KG -
Vertrieb Hartmetall
Division Carbides
info@berlin-carbide.com

フィンランド | Finland
OY Gühring AB
myynti@guehring.fi

フランス | France
Gühring Alsace S. A. R. L.
info@guhring-alsace.com

Guhring France S. A. R. L.
info@guhring-france.com

イギリス | Great Britain
Guhring Ltd.
info@guhring.co.uk

インド | India
Guhring India Pvt. Ltd.
info@guhring.in

インドネシア | Indonesia
PT. Guhring Indonesia
sales@guhring.co.id

イタリア | Italy
German Carbide Italia
kfcarbideitalia@legaimail.it

日本 | Japan
Guhring Japan Co., Ltd.
tokyo.sales@guhring.co.jp

カナダ | Canada
Guhring Corp.
sales@guhring.com

韓国 | Korea
Gühring Korea Co. Ltd.
info@guhring.co.kr

メキシコ | Mexico
Guhring Mexicana S.A. de C.V.
contacto@guehring.de

オランダ | The Netherlands
Gühring Nederland B. V.
info@guhring.nl

オーストリア | Austria
Gühring Ges. m. b. H.
verkauf@guehring.at

フィリピン | Philippines
Guhring Philippines
guehring-philippines
@guehring.de

ポーランド | Poland
Guhring Sp. z o. o.
handel@guehring.pl

ルーマニア | Romania
Gühring s. r. l. - Romania
romania@guehring.de

ロシア | Russia
German Carbide OOO
info@german-carbide.ru

スウェーデン | Sweden
Guhring Sweden AB
info@guehring.se

スイス | Switzerland
Gühring Schweiz AG
info@guehring.ch

シンガポール | Singapore
Guhring (Singapore) Pte.
Ltd. admin@guhring.com.sg

スロバキア | Slovakia
Gühring Slovakia, s. r. o.
guehring@guehring.sk

スロベニア | Slovenia
Gühring d. o. o.
info@guehring.si

スペイン | Spain
Guhring S. A.
guhring@guhring.es

Gühring Cataluna S.
A. U. guhring.catalu-
nya@guhring.es

南アフリカ | South Africa
Guhring Cutting Tools (Pty)
Ltd. - Gauteng
info@guhring.co.za

台湾 | Taiwan
Guhring Taiwan Ltd.
info@guhring.com.tw

タイ | Thailand
Guehring (Thailand) Co., Ltd.
info.thailand@guehring.de

チェコ | Czech Republic
Guhring S. r. o.
sekretariat@guehring.de

トルコ | Turkey
Gühring Takim San. Tic.
Ltd.Sti. - Ankara Subesi
infoankara@guhring.com.tr

アメリカ | USA
Guhring Inc.
sales@guhring.com

Ultra Carbide, LLC
sales@ultracarbide.com

ウズベキスタン | Uzbekistan
FE LLC GUHRING
info@guhring.uz

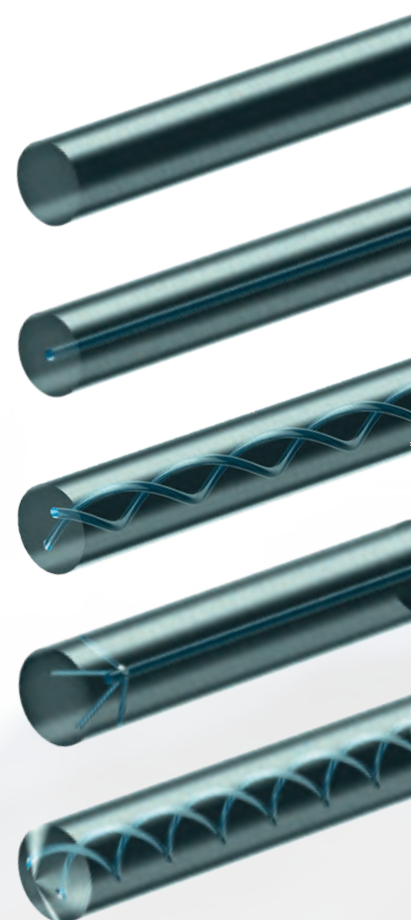
ウクライナ | Ukraine
Guhring Ukraine
office.ukraine@guehring.de

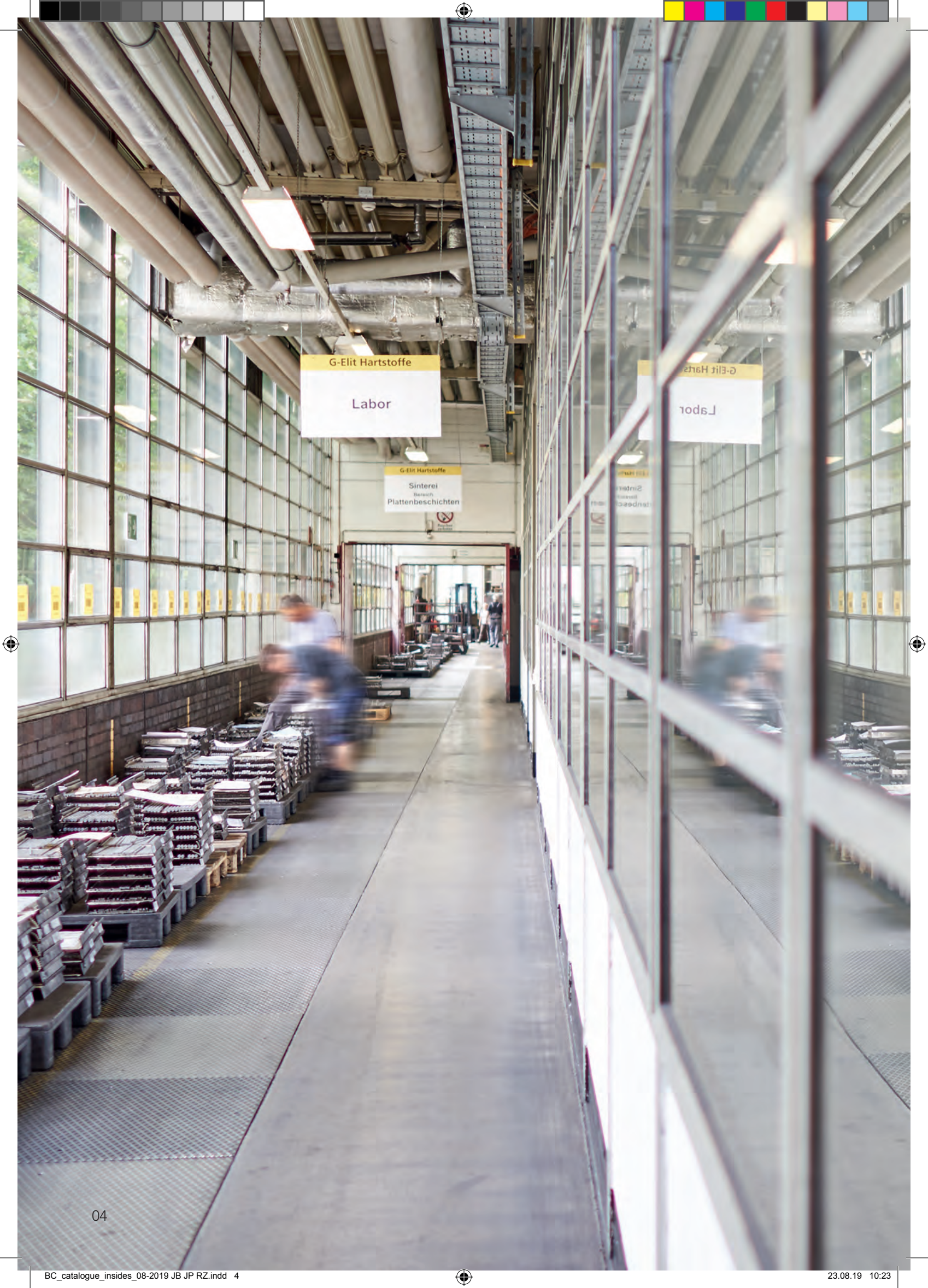
ハンガリー | Hungary
Tritán-Gühring Kft.
info@tritan.hu

ベトナム | Vietnam
Guhring Vietnam LLC
info@guhring.vn

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G-Elit Hartstoffe
Labor

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Sinterei
Bereich
Plattenbeschichten

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ベルリンから超硬素材 – 伝統と革新の融合

Carbide from Berlin – tradition and innovation combined

「BERLIN CARBIDE」ブランドは最高品質の超硬素材をドイツの首都ベルリンから世界へ供給いたします。
ドイツ最大の工具メーカー「Gühring KG」の超硬製造部門の「G-ELIT 精密ツール有限会社」は航空宇宙産業、自動車産業、機械メーカー及び家電産業のアプリケーション向けに様々な用途別超硬材種を製造しています。

ベルリン市内の200社の大手企業のひとつである「G-ELIT社」は、歴史的遺産建築として登録された建物を製造工場として利用し、400人の従業員で年間約1600トン超硬材を製造しています。バウハウス様式の全面ガラス張りの工場は美しく、他に類を見ない魅力をもっています。

The brand "BERLIN CARBIDE" delivers the highest carbide grade quality to meet customer demands worldwide directly from Germany's capital.

As part of "Gühring KG", the largest German tool manufacturer, the carbide division of "G-ELIT Präzisionswerkzeuge GmbH" produces a wide range of cemented carbide grades for applications in the area of aerospace, automotive, engineering and consumer electronics.

In our heritage-protected production hall as one of the 200 largest Berlin companies, we produce in the middle of the capital with a team of around 400 employees about 1,600 tonnes of carbide per year. The fully glazed facades in Bauhaus style give our production facility its own incomparable charm.

工場の歴史ある庭や建物の伝統を守りつつ、我々は日々お客様の要求に応じた製品の開発と生産に取り組んでいます。当社は、柔軟な対応性をもつ成型部門と最新鋭の半自動押出機及び乾式プレス機の導入により、お客様のご要望に応じた回転切削工具用の丸棒や特殊形状の超硬素材、また複雑な超硬金型やその構成部品を供給することも可能です。

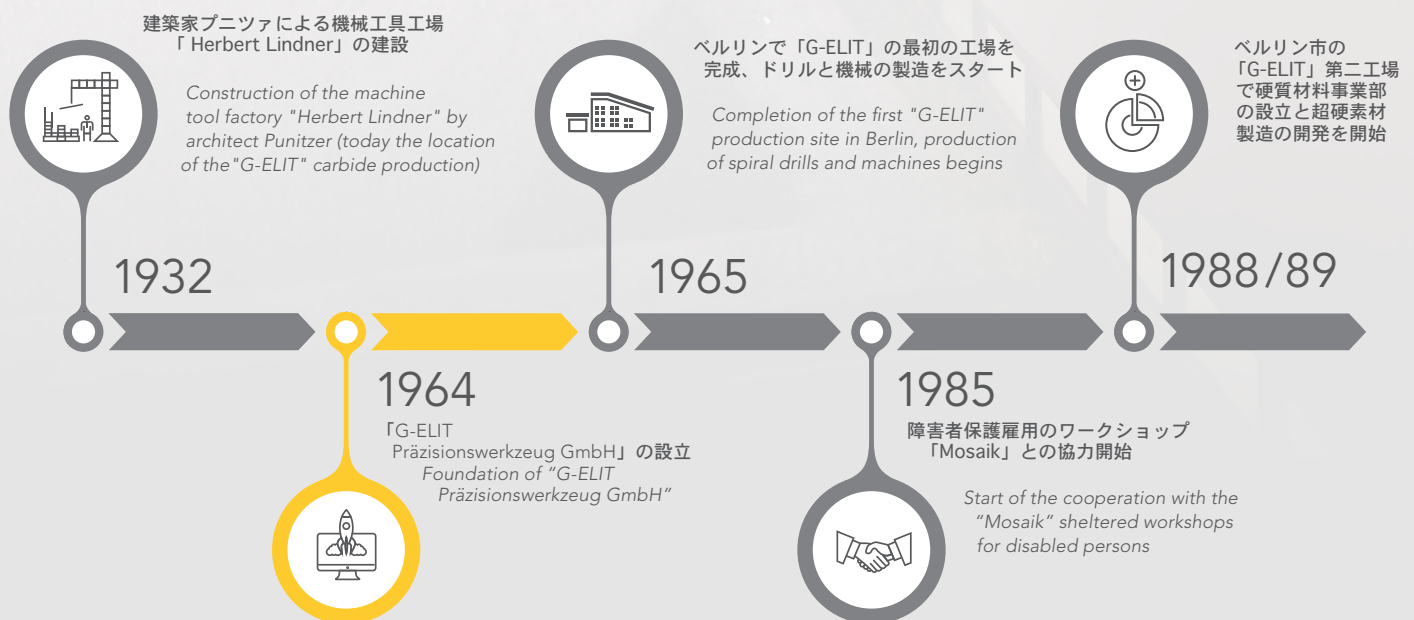
宜しければ自分の目で確認して頂くためドイツの首都のベルリンにある我々の工場に来て下さい。お待ちしております。

With a view of the countryside into the historical factory garden, we pursue on the one hand the tradition of the terrain and the buildings, but on the other hand at the same time we stand up for the future and your demands.

Whether blanks for rotating cutting tools or customised geometries, our state-of-the-art, advanced and semi-automated extrusion and dry presses, combined with the flexible preforming department, allow us to create even the most challenging moulded and component parts.

You are invited to convince yourself of our performance on site and visit us in the federal capital Berlin!

沿革 | Milestones





BERLIN CARBIDE
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Founding of the business unit hard materials and development of the carbide production at the second "G-ELIT" manufacturing site in Berlin



超硬材製造
年間100トン
Carbide output
100 tons / year

1994



「Berlin Carbide」ブランドを創設
Introduction of the brand
"BERLIN CARBIDE"

2016

1990

超硬素材製造のスタート

Start of the carbide production

2011

「G-ELIT」がベルリン市のイノベーション賞を獲得

"G-ELIT" was awarded with Berlin innovation award

2017

社員360人で超硬材製造が年間1400トン

Carbide output over 1400 tons / year with about 360 employees

超硬合金の製造工程

From the powder to the carbide blank



混合と造粒

最初は、タングステンカーバイド、コバルトと添加物を独自のレシピにより混合します。その後、この混合物を数時間ボールミルで粉砕した後、スプレードライ工程やふるいにかけることにより、各製品に合わせた大きさの粒状にします。

MIXING & MILLING

Firstly tungsten carbide, cobalt and doping elements are mixed according to our special recipes. This mixture is then ball-milled for several hours and afterwards sieved or spray-dried to get powder or granulate for our different production technologies.

ニーディング

有機添加剤を使用し、ニーディングすることにより押出成形可能な粘土のような状態に可塑化します。

KNEADING

With the help of organic additives, the powder is plasticised in our kneaders into a clay-like dough that can be extruded.

押し出しプレス

最新のプレス技術により、多種多様な内部および外部形状を成形します。

EXTRUDING

Through our innovative pressing technology different inner and outer geometries can be realized out of the plasticised mixture.

ドライプレス

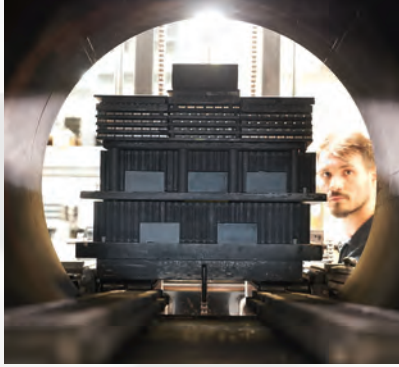
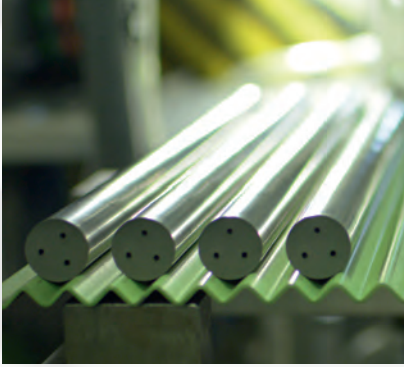
粉末から成形体にする打抜きおよび型抜きプレスにより異なる形状の部品を1分あたり最大10個成形します。

DRY-PRESSING

From the powder to the green body: Within seconds punches and dies press parts of different geometries into shape - up to 10 pieces per minute.



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乾燥

その後、添加された液体の一部を当社の恒温槽および乾燥炉で厳密に管理された条件下でゆっくり取り除きます。乾燥時間は外径により異なります。

DRYING

Subsequently, part of the added liquids must be slowly removed from the product under strictly controlled conditions in our climate chamber and special drying furnaces. The drying time depends on the outer diameter.

焼結

コバルトは約1380°Cで溶融して、炭化タングステン粒子間の隙間に流れ込みます。Sinter-HIPプロセスにより、非多孔質の成形部品が得られ、製品の収縮率は最大25%です。

SINTERING

The cobalt melts at about 1380 °C and flows into the free spaces between the tungsten carbide grains. Sinter-HIP process results in non-porous molded parts and shrinkage of the products amounts up to 25%.

研磨

最後に厳格な検査を合格した丸棒は倉庫に保管されるか、センタレス研磨部門により研磨されます。

GRINDING

After passing a last rigorous inspection the rods are then either stocked in our warehouse or refined in our centerless-grinding department.

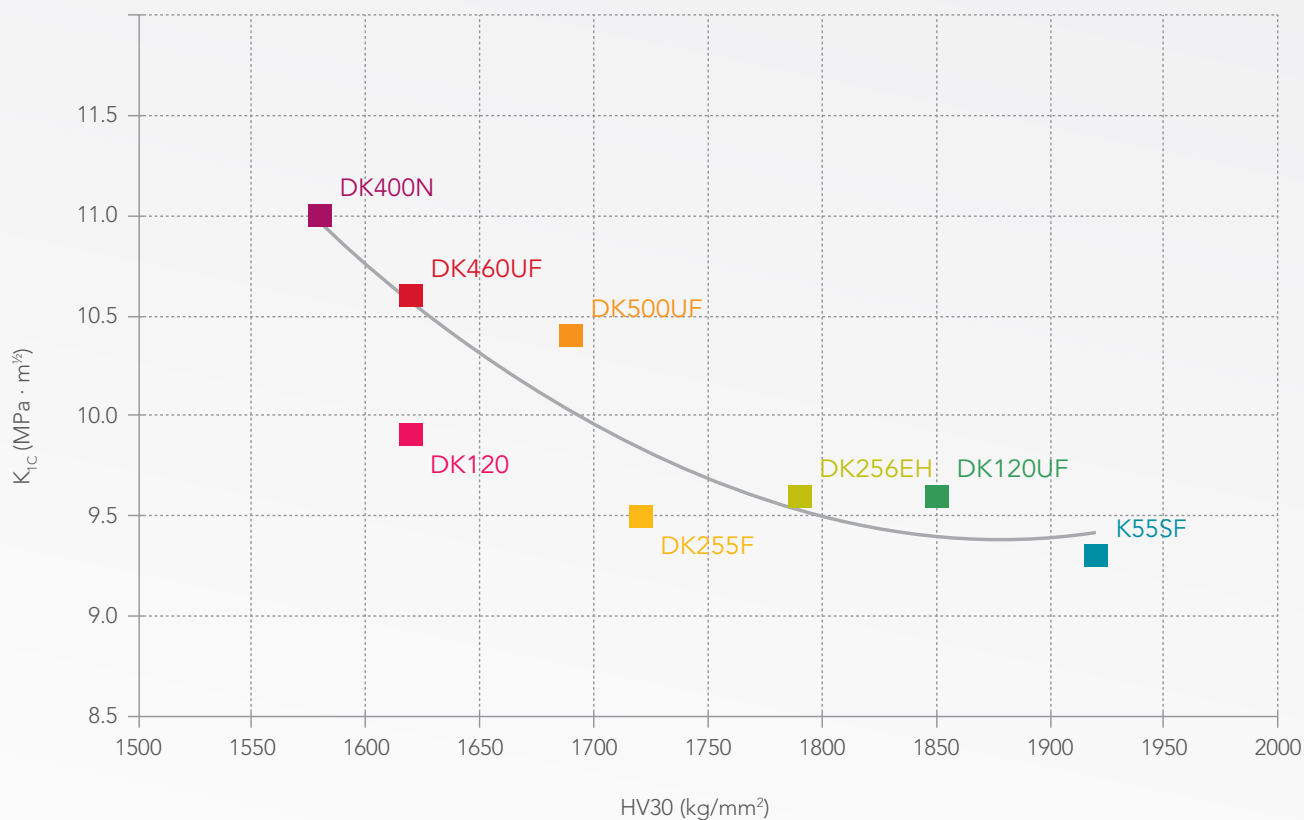
技術データ

Technical data

材種 Grade		DK400N	DK120	DK460UF	DK500UF	DK255F	DK256EH	DK120UF	K55SF
ISO規格 Classification		K20-K40	K15-K20	K20-K40	K20-K30	K20	K20	K10	K05-K10
コバルト含有量 Co	%	10.0	6.0	10.0	12.0	8.0	8.0	7.0	9.0
タングステンカーバイド 及びその他添加物 WC incl. doping	%	90.0	94.0	90.0	88.0	92.0	92.0	93.0	91.0
密度 Density	g/cm ³	14.50	14.95	14.45	14.05	14.55	14.60	14.70	14.35
ピッカース硬さ HV30 Hardness HV30	kg/mm ²	1580	1620	1620	1690	1720	1790	1850	1920
破壊靱性値 K _{IC} Fracture toughness	MPa·m ^{1/2}	11.0	9.9	10.6	10.4	9.5	9.6	9.6	9.3
曲げ強さ Transverse rupture strength	N/mm ²	4100	3200	4100	4200	3800	3700	3500	3800
平均粒径 Average grain size	μm	0.70	1.20	0.60	0.50	0.70	0.60	0.70	0.20

破壊靱性と硬度

Fracture toughness vs. hardness



アプリケーション

Applications

材種 Grade		DK400N	DK120	DK460UF	DK500UF	DK255F	DK256EH	DK120UF	K55SF
	ISO								
ドリル Drilling		•	•	•	•	•	•	•	•
エンドミル End Milling		•		•	•	•	•		•
リーマ Reaming							•		
タップ Tapping		•	•	•	•			•	
炭素鋼 carbon steel	P	•		•					
低合金鋼 low-alloyed steel	P	•		•	•				
高合金鋼 high-alloyed steel (tool and sectional steel)	P				•		•	•	•
オーステナイト系ステンレス austenitic stainless steel	M	•		•	•	•	•	•	
フェライト系とマルテンサイト系ステンレス ferritic & martensitic stainless steel	M			•	•		•	•	
ねずみ鑄鉄 grey cast iron	K			•	•	•			
可鍛鑄鉄 malleable cast iron	K			•	•	•			
アルミ合金 aluminium alloys	N					•			•
銅合金 copper alloys	N			•					
耐熱合金 (Fe-/Ni-/Co-/Ti-ベース) superalloys (Fe-/Ni-/Co-/Ti-based)	S	•		•	•		•	•	
高硬度鋼 (ホワイト・チルド鑄鉄) hardened metals (white/chilled cast iron)	H				•	•	•		•
GFRP GFRP					•		•	•	•
CFRP CFRP					•		•	•	•
複合材 composite materials				•	•			•	•
プラスチック plastics				•					•
非鉄金属 non-ferrous metals						•			
木材 wood				•		•			
グラファイト graphite			•*					•	•

*ダイヤモンドコーティング | *Diamond Coating

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BERLIN CARBIDE
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未研磨材

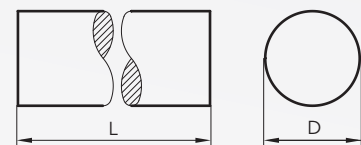
Rods, raw

D mm	Code	DK120	DK460UF		DK500UF	DK255F	DK120UF	K55SF
		7021	7014	7352	7367	7022	7016	7187
		330mm	330mm	415mm	330mm	330mm	330mm	330mm
1.2 +0.30	1.200		•					•
1.7 +0.30	1.700		•					•
2.2 +0.30	2.200	•	•			•	•	•
2.7 +0.30	2.700	•	•			•	•	•
3.2 +0.30	3.200	•	•		•	•	•	•
3.7 +0.30	3.700	•	•			•	•	•
4.2 +0.30	4.200	•	•		•	•	•	•
4.7 +0.30	4.700	•	•			•	•	•
5.2 +0.30	5.200	•	•		•	•	•	•
5.7 +0.30	5.700	•	•			•	•	•
6.2 +0.30	6.200	•	•	•	•	•	•	•
6.7 +0.30	6.700	•	•			•	•	•
7.2 +0.30	7.200	•	•			•	•	•
7.7 +0.30	7.700		•					•
8.2 +0.30	8.200	•	•	•	•	•	•	•
8.7 +0.30	8.700	•	•			•	•	•
9.2 +0.30	9.200	•	•			•	•	•
9.7 +0.30	9.700	•	•					•
10.2 +0.40	10.200	•	•	•	•	•	•	•
10.7 +0.40	10.700		•			•		•
11.2 +0.40	11.200	•	•			•	•	•
11.7 +0.40	11.700		•					•
12.2 +0.50	12.200	•	•	•	•	•	•	•
12.7 +0.50	12.700		•				•	•
13.2 +0.50	13.200	•	•			•	•	•
13.7 +0.50	13.700		•					•
14.2 +0.60	14.200	•	•	•	•	•	•	•
14.7 +0.60	14.700		•					•
15.2 +0.60	15.200	•	•			•		•
15.7 +0.60	15.700		•					
16.2 +0.60	16.200	•	•	•	•	•	•	•
16.7 +0.60	16.700	•	•					
17.2 +0.60	17.200	•	•					•
17.7 +0.60	17.700		•					
18.2 +0.60	18.200	•	•	•	•	•	•	•
18.7 +0.60	18.700		•					



D mm	Code	DK120	DK460UF		DK500UF	DK255F	DK120UF	K55SF
		7021	7014	7352	7367	7022	7016	7187
		330mm	330mm	415mm	330mm	330mm	330mm	330mm
19.2 +0.60	19.200		•					•
19.7 +0.60	19.700		•					
20.2 +0.60	20.200	•	•	•	•	•	•	
20.7 +0.60	20.700		•					
21.2 +0.60	21.200	•	•					
22.2 +0.60	22.200	•	•					
23.2 +0.60	23.200		•					
24.2 +0.70	24.200		•					
25.2 +0.70	25.200	•	•	•	•	•	•	•
26.2 +0.70	26.200		•			•		
27.2 +0.70	27.200		•					
28.2 +0.80	28.200		•					
29.2 +0.80	29.200		•					
30.2 +0.80	30.200		•	•				
32.2 +0.80	32.200	•	•	•		•		
34.2 +0.80	34.200		•					
35.2 +0.80	35.200		•					
36.2 +0.80	36.200		•					
38.2 +0.80	38.200		•					
40.2 +0.80	40.200		•					

寸法 | Dimensioning



研磨材 径公差 h6

Rods, ground to tolerance h6

D h6 mm	Code	DK120	7075	DK460UF	7085	DK500UF	DK255F	K55SF
		7031		7354		7372	7032	7187
		330mm	330mm	415mm	100mm	330mm	330mm	330mm
1.0	1.000		•					
1.5	1.500		•					
2.0	2.000		•					
3.0	3.000	•	•		•	•	•	•
3.5	3.500	•	•					
4.0	4.000	•	•		•	•	•	•
4.5	4.500		•					
5.0	5.000	•	•		•	•	•	•
5.5	5.500	•	•					
6.0	6.000	•	•	•	•	•	•	•
6.5	6.500		•					
7.0	7.000		•		•			•
7.5	7.500		•					
8.0	8.000	•	•	•	•	•	•	•
8.5	8.500		•					
9.0	9.000		•		•		•	•
9.5	9.500		•					•
10.0	10.000	•	•	•	•	•	•	•
10.5	10.500		•					
11.0	11.000		•					
11.5	11.500		•					
12.0	12.000	•	•	•	•	•	•	•
12.5	12.500		•					
13.0	13.000	•	•					•
14.0	14.000	•	•	•	•	•	•	•
15.0	15.000		•		•			
16.0	16.000	•	•	•	•	•	•	•
17.0	17.000		•					
18.0	18.000	•	•	•	•	•	•	•
19.0	19.000		•					
20.0	20.000	•	•	•	•	•	•	•
21.0	21.000		•					
22.0	22.000		•					
23.0	23.000		•					
24.0	24.000		•					
25.0	25.000	•	•		•	•	•	•



D h6 mm	Code	DK120 7031	7075	DK460UF 7354	7085	DK500UF 7372	DK255F 7032	K55SF 7187
		330mm	330mm	415mm	100mm	330mm	330mm	330mm
26.0	26.000		•					
27.0	27.000		•					
28.0	28.000		•					
30.0	30.000		•					
31.0	31.000		•					
32.0	32.000		•				•	
34.0	34.000		•					
35.0	35.000		•					
36.0	36.000		•					
40.0	40.000		•					

硬研材 径公差 h6 インチサイズ

■ インチサイズ

Rods, ground to tolerance h6

■ in inches

D h6 inches/mm	Code	DK460UF 7932
		330mm/13inches
1/8 3.175	3.170	•
3/16 4.763	4.760	•
1/4 6.350	6.350	•
5/16 7.938	7.930	•
3/8 9.525	9.520	•
7/16 11.113	11.110	•
1/2 12.700	12.700	•
9/16 14.288	14.280	•
5/8 15.875	15.870	•
3/4 19.050	19.050	•
7/8 22.225	22.220	•
1 25.400	25.400	•

寸法 | Dimensioning



未超硬材

■ オイルホール付き 1穴センターストレート

Rods, raw

■ with 1 central coolant duct

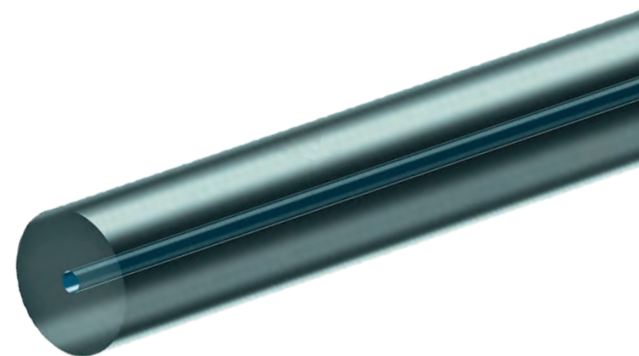
D mm	d mm	a mm	Code	DK460UF	DK460UF	DK120UF
				7387	7987	7380
				330mm	415mm	330mm
4.5 +0.30	0.60 ±0.10	0.07	4.500	•		
6.3 +0.30	1.00 ±0.15	0.07	6.300	•	•	
6.3 +0.30	1.80 ±0.15	0.07	6.301	•		
8.3 +0.30	1.30 ±0.15	0.07	8.300	•	•	
8.3 +0.30	2.50 ±0.20	0.07	8.301	•		
10.3 +0.40	2.00 ±0.20	0.10	10.300	•	•	
10.3 +0.40	3.00 ±0.25	0.10	10.301	•		
12.3 +0.40	2.00 ±0.20	0.10	12.300	•	•	
12.3 +0.40	3.00 ±0.25	0.10	12.301	•		
13.3 +0.40	2.00 ±0.20	0.12	13.300	•		
14.3 +0.40	2.00 ±0.20	0.12	14.300	•	•	
14.3 +0.40	3.00 ±0.25	0.12	14.301	•		
14.3 +0.40	1.50 ±0.20	0.12	14.302	•		
16.3 +0.50	2.00 ±0.20	0.12	16.300	•	•	
16.3 +0.50	2.50 ±0.20	0.12	16.301	•		
16.3 +0.50	4.00 ±0.30	0.12	16.302	•		
16.3 +0.50	3.00 ±0.25	0.12	16.304	•	•	
18.3 +0.50	3.00 ±0.25	0.15	18.300	•	•	
20.3 +0.50	3.00 ±0.25	0.15	20.300	•	•	
22.3 +0.50	3.00 ±0.25	0.15	22.300	•		
24.3 +0.50	4.00 ±0.30	0.15	24.300	•		
25.3 +0.50	4.00 ±0.30	0.15	25.300	•	•	
25.3 +0.50	3.00 ±0.25	0.15	25.301	•	•	
26.3 +0.50	4.00 ±0.30	0.15	26.300	•		
28.3 +0.50	4.00 ±0.30	0.15	28.300	•		
30.3 +0.50	5.00 ±0.35	0.15	30.300	•		
32.3 +0.50	5.00 ±0.35	0.15	32.300	•	•	
4.5 +0.30	1.00 ±0.10	0.07	4.500			•
6.3 +0.30	1.30 ±0.15	0.07	6.300			•
8.3 +0.30	2.00 ±0.20	0.07	8.300			•
10.3 +0.40	2.50 ±0.25	0.10	10.300			•
12.3 +0.40	3.00 ±0.25	0.10	12.300			•
14.3 +0.40	3.00 ±0.25	0.12	14.300			•
16.3 +0.50	3.50 ±0.30	0.12	16.300			•
18.3 +0.50	3.50 ±0.30	0.15	18.300			•
20.3 +0.50	4.00 ±0.30	0.15	20.300			•

研磨材 径公差 h6

■ オイルホール付き 1穴センターストレート

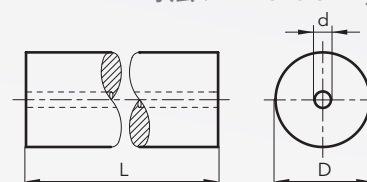
Rods, ground to tolerance h6

■ with 1 central coolant duct



D h6 mm	d mm	a mm	Code	DK460UF 7339
				330mm
4.0	0.60 ±0.10	0.07	4.000	•
6.0	1.00 ±0.15	0.07	6.000	•
6.0	1.80 ±0.15	0.07	6.001	•
8.0	1.30 ±0.15	0.07	8.000	•
8.0	2.50 ±0.20	0.07	8.001	•
10.0	2.00 ±0.20	0.10	10.000	•
10.0	3.00 ±0.25	0.10	10.001	•
12.0	2.00 ±0.20	0.10	12.000	•
12.0	3.00 ±0.25	0.10	12.001	•
14.0	2.00 ±0.20	0.12	14.000	•
14.0	3.00 ±0.25	0.12	14.001	•
16.0	2.00 ±0.20	0.12	16.000	•
16.0	2.50 ±0.20	0.12	16.001	•
16.0	4.00 ±0.30	0.12	16.002	•
16.0	3.00 ±0.25	0.12	16.004	•
18.0	3.00 ±0.25	0.15	18.000	•
20.0	3.00 ±0.25	0.15	20.000	•
22.0	3.00 ±0.25	0.15	22.000	•
24.0	4.00 ±0.30	0.15	24.000	•
25.0	4.00 ±0.30	0.15	25.000	•
25.0	3.00 ±0.30	0.15	25.001	•
26.0	4.00 ±0.30	0.15	26.000	•
28.0	4.00 ±0.30	0.15	28.000	•
30.0	5.00 ±0.35	0.15	30.000	•
32.0	5.00 ±0.35	0.15	32.000	•

寸法 | Dimensioning



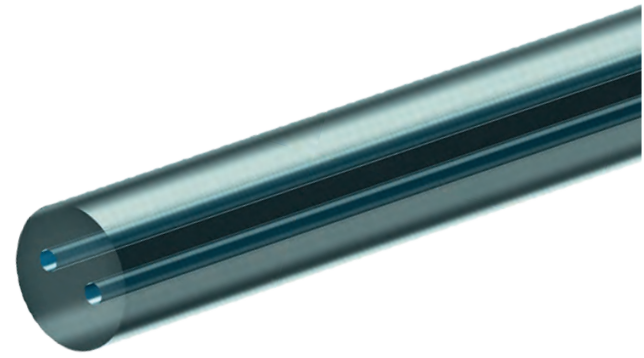
未研磨材

■ オイルホール付き 2穴パラレルストレート

Rods, raw

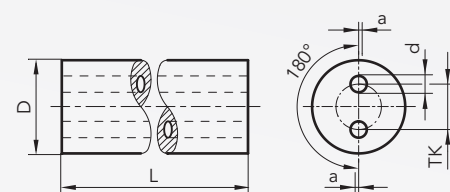
■ with 2 parallel coolant ducts

D mm	TK BC mm	d mm	a mm	Code	DK460UF	
					7301	7309
					330mm	415mm
4.2 +0.30	1.80 -0.15	0.80 ±0.10	0.10	4.200	•	
4.2 +0.30	2.25 -0.15	0.60 -0.05	0.10	4.201	•	
5.2 +0.30	2.00 -0.15	0.80 ±0.10	0.13	5.200	•	
6.3 +0.30	1.50 -0.20	0.80 ±0.10	0.15	6.300	•	
6.3 +0.30	3.00 -0.20	1.00 ±0.10	0.15	6.301	•	•
6.3 +0.30	1.50 -0.20	0.60 ±0.10	0.15	6.302	•	
6.3 +0.30	1.55 -0.20	0.65 ±0.15	0.08	6.303	•	
6.3 +0.30	1.70 -0.10	0.70 ±0.10	0.15	6.304	•	
6.3 +0.30	2.00 -0.15	0.80 ±0.05	0.15	6.305	•	
6.3 +0.30	2.40 -0.30	1.00 ±0.15	0.15	6.306	•	
7.3 +0.30	1.80 -0.20	0.80 ±0.10	0.15	7.300	•	
7.3 +0.30	3.50 -0.20	1.00 ±0.15	0.15	7.301	•	
8.3 +0.30	1.50 -0.20	0.80 ±0.15	0.15	8.300	•	•
8.3 +0.30	2.60 -0.30	1.00 ±0.15	0.20	8.301	•	•
8.3 +0.30	4.00 -0.30	1.00 ±0.15	0.15	8.302	•	•
8.3 +0.30	2.00 -0.30	0.80 ±0.15	0.15	8.303	•	
9.3 +0.30	2.60 -0.30	1.00 ±0.15	0.20	9.300	•	
9.3 +0.30	4.00 -0.30	1.40 ±0.15	0.20	9.301	•	
10.3 +0.30	2.60 -0.30	1.00 ±0.15	0.20	10.300	•	•
10.3 +0.30	5.00 -0.30	1.40 ±0.15	0.20	10.301	•	•
10.3 +0.30	3.50 -0.20	1.20 ±0.15	0.15	10.302	•	
11.3 +0.40	3.50 -0.30	1.20 ±0.15	0.28	11.300	•	
11.3 +0.40	5.00 -0.30	1.40 ±0.15	0.28	11.301	•	
12.3 +0.40	3.50 -0.30	1.20 ±0.15	0.30	12.300	•	•
12.3 +0.40	6.00 -0.30	1.75 ±0.15	0.30	12.301	•	•
13.3 +0.40	3.50 -0.30	1.20 ±0.15	0.34	13.300	•	
13.3 +0.40	6.00 -0.30	1.75 ±0.15	0.34	13.301	•	
14.3 +0.40	5.00 -0.30	1.50 ±0.15	0.37	14.300	•	•
14.3 +0.40	7.00 -0.30	1.75 ±0.15	0.37	14.301	•	•
15.3 +0.40	5.00 -0.30	1.50 ±0.15	0.40	15.300	•	
15.3 +0.40	7.00 -0.30	2.00 ±0.20	0.40	15.301	•	
16.3 +0.40	5.00 -0.30	1.50 ±0.15	0.40	16.300	•	•
16.3 +0.40	8.00 -0.30	2.00 ±0.20	0.40	16.301	•	•
17.3 +0.50	6.20 -0.30	2.00 ±0.20	0.47	17.300	•	
17.3 +0.50	8.00 -0.30	2.00 ±0.20	0.47	17.301	•	



D mm	TK BC mm	d mm	a mm	Code	DK460UF	
					7301	7309
					330mm	415mm
18.3 +0.50	6.20 -0.30	2.00 ±0.20	0.50	18.300	•	•
18.3 +0.50	9.00 -0.30	2.00 ±0.20	0.50	18.301	•	•
19.3 +0.50	6.20 -0.30	2.00 ±0.20	0.50	19.300	•	
19.3 +0.50	9.00 -0.30	2.00 ±0.20	0.50	19.301	•	
20.4 +0.50	3.50 -0.30	1.50 ±0.15	0.34	20.402	•	
20.4 +0.50	6.20 -0.40	2.00 ±0.20	0.50	20.400	•	•
20.4 +0.50	10.00 -0.40	2.50 ±0.25	0.50	20.401	•	•
21.4 +0.50	6.20 -0.40	2.00 ±0.20	0.50	21.400	•	
21.4 +0.50	10.00 -0.40	2.50 ±0.25	0.50	21.401	•	
22.4 +0.50	6.20 -0.40	2.00 ±0.20	0.50	22.400	•	
22.4 +0.50	11.00 -0.40	2.50 ±0.25	0.50	22.401	•	
23.4 +0.50	7.50 -0.40	2.00 ±0.20	0.50	23.400	•	
23.4 +0.50	11.00 -0.40	2.50 ±0.25	0.50	23.401	•	
24.4 +0.50	7.50 -0.40	2.00 ±0.20	0.50	24.400	•	
24.4 +0.50	12.00 -0.50	3.00 ±0.25	0.50	24.401	•	
25.4 +0.50	7.50 -0.40	2.00 ±0.20	0.50	25.400	•	•
25.4 +0.50	12.00 -0.50	3.00 ±0.25	0.50	25.401	•	•
26.4 +0.50	7.50 -0.40	2.00 ±0.20	0.50	26.400	•	
26.4 +0.50	13.00 -0.50	3.00 ±0.25	0.50	26.401	•	
28.4 +0.50	9.00 -0.40	2.50 ±0.25	0.50	28.400	•	
28.4 +0.50	14.00 -0.50	3.00 ±0.25	0.50	28.401	•	
30.4 +0.50	9.00 -0.40	2.50 ±0.25	0.50	30.401	•	
30.4 +0.50	14.00 -0.50	3.00 ±0.25	0.50	30.400	•	
32.4 +0.50	9.00 -0.40	2.50 ±0.25	0.50	32.400	•	•
32.4 +0.50	14.00 -0.50	3.00 ±0.25	0.50	32.401	•	•

寸法 | Dimensioning



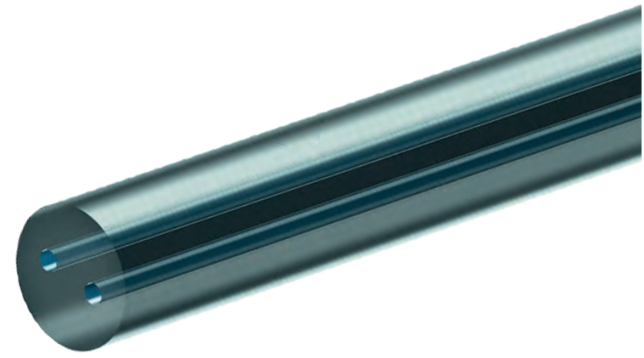
研磨材 径公差 h6

■ オイルホール付き 2穴パラレルストレート

Rods, ground to tolerance h6

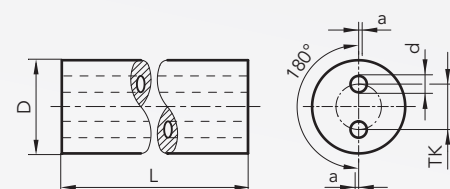
■ with 2 parallel coolant ducts

D h6 mm	TK BC mm	d mm	a mm	Code	DK460UF 7302
					330mm
4.0	1.80 -0.15	0.80 ±0.10	0.10	4.000	•
5.0	2.00 -0.15	0.80 ±0.10	0.13	5.000	•
6.0	1.50 -0.20	0.80 ±0.10	0.15	6.000	•
6.0	3.00 -0.20	1.00 ±0.10	0.15	6.001	•
6.0	2.00 -0.15	0.80 ±0.05	0.15	6.005	•
6.0	2.40 -0.30	1.00 ±0.10	0.15	6.006	•
7.0	1.80 -0.20	0.80 ±0.10	0.15	7.000	•
7.0	3.50 -0.20	1.00 ±0.15	0.15	7.001	•
8.0	1.50 -0.20	0.80 ±0.15	0.15	8.000	•
8.0	2.60 -0.30	1.00 ±0.15	0.20	8.001	•
8.0	4.00 -0.30	1.00 ±0.15	0.15	8.002	•
8.0	2.00 -0.30	0.80 ±0.15	0.15	8.003	•
9.0	2.60 -0.30	1.00 ±0.15	0.20	9.000	•
9.0	4.00 -0.30	1.40 ±0.15	0.20	9.001	•
9.525	2.60 -0.30	1.00 ±0.15	0.20	9.520	•
9.525	5.00 -0.30	1.40 ±0.15	0.20	9.521	•
10.0	2.60 -0.30	1.00 ±0.15	0.20	10.000	•
10.0	5.00 -0.30	1.40 ±0.15	0.20	10.001	•
10.0	3.50 -0.20	1.20 ±0.15	0.15	10.002	•
11.0	3.50 -0.30	1.20 ±0.15	0.28	11.000	•
11.0	5.00 -0.30	1.40 ±0.15	0.28	11.001	•
12.0	3.50 -0.30	1.20 ±0.15	0.30	12.000	•
12.0	6.00 -0.30	1.75 ±0.15	0.30	12.001	•
12.700	3.50 -0.30	1.20 ±0.15	0.30	12.700	•
12.700	6.00 -0.30	1.75 ±0.15	0.30	12.701	•
13.0	3.50 -0.30	1.20 ±0.15	0.34	13.000	•
13.0	6.00 -0.30	1.75 ±0.15	0.34	13.001	•
14.0	5.00 -0.30	1.50 ±0.15	0.37	14.000	•
14.0	7.00 -0.30	1.75 ±0.15	0.37	14.001	•
15.0	5.00 -0.30	1.50 ±0.15	0.40	15.000	•
15.0	7.00 -0.30	2.00 ±0.20	0.40	15.001	•
15.875	5.00 -0.30	1.50 ±0.15	0.40	15.870	•
15.875	8.00 -0.30	2.00 ±0.20	0.40	15.871	•
16.0	5.00 -0.30	1.50 ±0.15	0.40	16.000	•
16.0	8.00 -0.30	2.00 ±0.20	0.40	16.001	•



D h6 mm	TK BC mm	d mm	a mm	Code	DK460UF 7302
					330mm
17.0	6.20 -0.30	2.00 ±0.20	0.47	17.000	•
17.0	8.00 -0.30	2.00 ±0.20	0.47	17.001	•
18.0	6.20 -0.30	2.00 ±0.20	0.50	18.000	•
18.0	9.00 -0.30	2.00 ±0.20	0.50	18.001	•
19.0	9.00 -0.30	2.00 ±0.20	0.50	19.001	•
19.050	6.20 -0.30	2.00 ±0.20	0.50	19.050	•
19.050	9.00 -0.30	2.00 ±0.20	0.50	19.051	•
20.0	3.50 -0.30	1.50 ±0.15	0.34	20.002	•
20.0	6.20 -0.40	2.00 ±0.20	0.50	20.000	•
20.0	10.00 -0.40	2.50 ±0.25	0.50	20.001	•
21.0	6.20 -0.40	2.00 ±0.20	0.50	21.000	•
21.0	10.00 -0.40	2.50 ±0.25	0.50	21.001	•
22.0	6.20 -0.40	2.00 ±0.20	0.50	22.000	•
22.0	11.00 -0.40	2.50 ±0.25	0.50	22.001	•
23.0	11.00 -0.40	2.50 ±0.25	0.50	23.000	•
24.0	7.50 -0.40	2.00 ±0.20	0.50	24.000	•
24.0	12.00 -0.50	3.00 ±0.25	0.50	24.001	•
25.0	7.50 -0.40	2.00 ±0.20	0.50	25.000	•
25.0	12.00 -0.50	3.00 ±0.25	0.50	25.001	•
25.400	7.50 -0.40	2.00 ±0.20	0.50	25.402	•
26.0	13.00 -0.50	3.00 ±0.25	0.50	26.000	•
28.0	9.00 -0.40	2.50 ±0.25	0.50	28.000	•
28.0	14.00 -0.50	3.00 ±0.25	0.50	28.001	•
30.0	14.00 -0.50	3.00 ±0.25	0.50	30.000	•
30.0	9.00 -0.40	2.50 ±0.25	0.50	30.001	•
32.0	9.00 -0.40	2.50 ±0.25	0.50	32.000	•
32.0	14.00 -0.50	3.00 ±0.25	0.50	32.001	•

寸法 | Dimensioning



未研磨材

■ オイルホール付き 2穴15° ねじれ

Rods, raw

■ with 2 coolant ducts, 15° helix

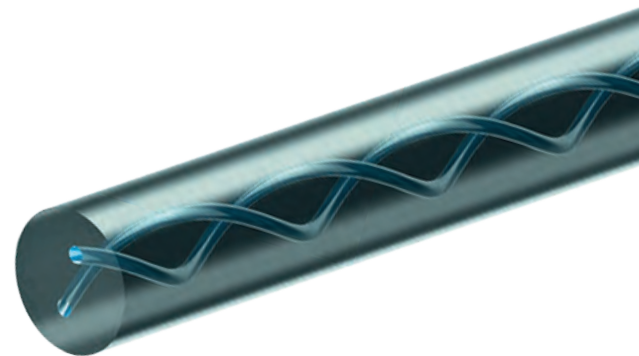
D mm	TK BC mm	d mm	a mm	15° ±0.5° mm	Code	DK460UF	
						7945	7947
						330mm	415mm
4.3 +0.30	2.10 ±0.10	0.60 ±0.10	0.10	46.90 +1.69/-1.59	4.300	•	
5.3 +0.30	2.60 ±0.15	0.70 ±0.10	0.13	58.62 +2.12/-1.98	5.300	•	
6.3 +0.30	2.60 -0.40	0.70 ±0.10	0.15	70.35 +2.54/-2.38	6.300	•	•
8.3 +0.30	3.60 -0.40	1.25 ±0.15	0.15	93.80 +3.38/-3.17	8.300	•	•
10.3 +0.30	4.80 -0.60	1.40 ±0.15	0.20	117.25 +4.23/-3.96	10.300	•	•
12.3 +0.40	6.25 -0.80	1.55 ±0.15	0.30	140.70 +5.08/-4.76	12.300	•	•
14.3 +0.40	6.70 -0.80	1.90 ±0.20	0.37	164.14 +5.92/-5.55	14.300	•	•
16.3 +0.40	8.00 -0.80	2.10 ±0.25	0.40	187.59 +6.77/-6.34	16.300	•	•
18.3 +0.40	9.00 -0.80	2.30 ±0.25	0.50	211.04 +7.61/-7.13	18.300	•	
20.3 +0.50	10.00 -1.00	2.50 ±0.30	0.50	234.49 +8.46/-7.93	20.300	•	
23.3 +0.50	12.00 -1.00	2.50 ±0.30	0.50	269.67 +9.73/-9.12	23.300	•	
26.3 +0.50	12.00 -1.00	2.50 ±0.30	0.50	304.84 +11.00/-10.31	26.300	•	

研磨材 径公差 h6

■ オイルホール付き 2穴 15° ねじれ

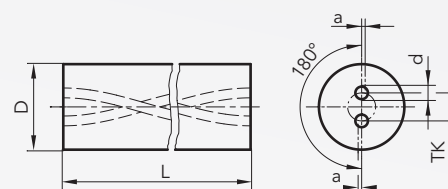
Rods, raw, ground to tolerance h6

■ with 2 coolant ducts, 15° helix



D h6 mm	TK BC mm	d mm	a mm	15° ±0.5° mm	Code	DK460UF 7583
						330mm
6.0	2.60 -0.40	0.70 ±0.10	0.15	70.35 +2.54/-2.38	6.000	•
8.0	3.60 -0.40	1.25 ±0.15	0.15	93.80 +3.38/-3.17	8.000	•
10.0	4.80 -0.60	1.40 ±0.15	0.20	117.25 +4.23/-3.96	10.000	•
12.0	6.25 -0.80	1.55 ±0.15	0.30	140.70 +5.08/-4.76	12.000	•
14.0	6.70 -0.80	1.90 ±0.20	0.37	164.14 +5.92/-5.55	14.000	•
16.0	8.00 -0.80	2.10 ±0.25	0.40	187.59 +6.77/-6.34	16.000	•
18.0	9.00 -0.80	2.30 ±0.25	0.50	211.04 +7.61/-7.13	18.000	•
20.0	10.00 -1.00	2.50 ±0.30	0.50	234.49 +8.46/-7.93	20.000	•

寸法 | Dimensioning



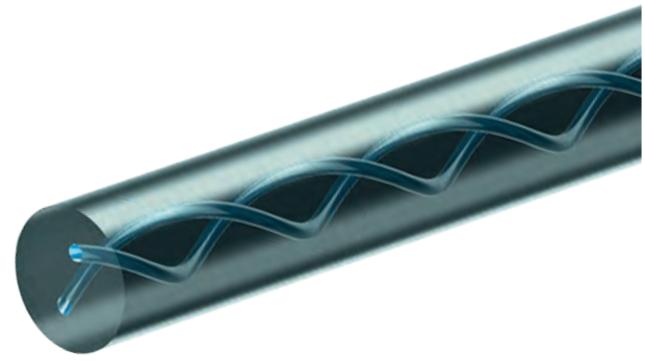
未研磨材

■ オイルホール付き 2穴30° ねじれ

Rods, raw

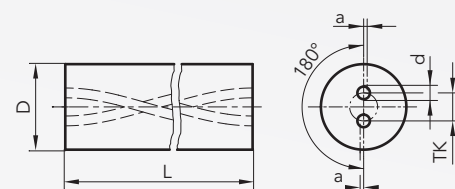
■ with 2 coolant ducts, 30° helix

D mm	TK BC mm	d mm	a mm	30° ±0.5° mm	Code	DK460UF		DK255F
						7940	7353	7370
						330mm	415mm	330mm
3.3 +0.30	1.60 ±0.10	0.40 ±0.10	0.08	16.32 +0.33/-0.32	3.300	•		
3.8 +0.30	1.80 ±0.10	0.50 ±0.10	0.09	19.04 +0.39/-0.38	3.800	•		
4.3 +0.30	2.10 ±0.10	0.60 ±0.10	0.10	21.77 +0.45/-0.43	4.300	•		
4.8 +0.30	2.30 ±0.10	0.70 ±0.10	0.10	24.49 +0.50/-0.49	4.800	•		
5.3 +0.30	2.60 ±0.15	0.70 ±0.10	0.13	27.21 +0.56/-0.54	5.300	•		
5.8 +0.30	2.60 -0.40	0.70 ±0.10	0.14	29.93 +0.61/-0.59	5.800	•		
6.3 +0.30	2.60 -0.40	0.70 ±0.10	0.15	32.65 +0.67/-0.65	6.300	•	•	•
6.3 +0.30	2.00 -0.20	0.80 ±0.10	0.15	32.65 +0.67/-0.65	6.301	•		
6.3 +0.30	2.60 -0.40	0.90 ±0.10	0.15	32.65 +0.67/-0.65	6.302	•		
6.8 +0.30	3.50 -0.40	1.00 ±0.15	0.15	35.37 +0.72/-0.70	6.800	•		
7.3 +0.30	3.50 -0.40	1.00 ±0.15	0.15	38.09 +0.78/-0.76	7.300	•		
7.8 +0.30	3.50 -0.40	1.00 ±0.15	0.15	40.81 +0.84/-0.81	7.800	•		
8.3 +0.30	3.60 -0.40	1.25 ±0.15	0.15	43.53 +0.89/-0.86	8.300	•	•	•
8.3 +0.30	3.50 -0.40	0.90 ±0.10	0.15	43.53 +0.89/-0.86	8.301	•		
8.8 +0.30	3.60 -0.40	1.25 ±0.15	0.20	46.25 +0.95/-0.92	8.800	•		
9.3 +0.30	4.80 -0.60	1.40 ±0.15	0.20	48.97 +1.00/-0.97	9.300	•		
9.8 +0.30	4.80 -0.60	1.40 ±0.15	0.20	51.69 +1.06/-1.03	9.800	•		
10.3 +0.30	4.80 -0.60	1.40 ±0.15	0.20	54.41 +1.11/-1.08	10.300	•	•	•
10.3 +0.30	4.80 -0.60	0.90 ±0.10	0.20	54.41 +1.11/-1.08	10.301	•		
10.8 +0.40	4.80 -0.60	1.40 ±0.15	0.28	57.13 +1.17/-1.13	10.800	•		
11.3 +0.40	5.30 -0.80	1.40 ±0.15	0.28	59.86 +1.22/-1.19	11.300	•	•	
11.8 +0.40	5.80 -0.80	1.40 ±0.15	0.30	62.58 +1.28/-1.24	11.800	•		
12.3 +0.40	6.25 -0.80	1.55 ±0.15	0.30	65.30 +1.34/-1.30	12.300	•	•	•
12.3 +0.40	5.40 -0.80	1.50 ±0.15	0.30	65.30 +1.34/-1.30	12.301	•		
12.8 +0.40	6.25 -0.80	1.55 ±0.15	0.33	68.02 +1.39/-1.35	12.800	•		
13.3 +0.40	6.50 -0.80	1.75 ±0.20	0.34	70.74 +1.45/-1.40	13.300	•		
13.8 +0.40	6.50 -0.80	1.75 ±0.20	0.35	73.46 +1.50/-1.46	13.800	•		
14.3 +0.40	6.70 -0.80	1.90 ±0.20	0.37	76.18 +1.56/-1.51	14.300	•	•	•
14.8 +0.40	6.70 -0.80	1.90 ±0.20	0.39	78.90 +1.61/-1.57	14.800	•		
15.3 +0.40	7.40 -0.80	1.90 ±0.20	0.40	81.62 +1.67/-1.62	15.300	•		
15.8 +0.40	7.40 -0.80	1.90 ±0.20	0.40	84.34 +1.73/-1.67	15.800	•		
16.3 +0.40	8.00 -0.80	2.10 ±0.25	0.40	87.06 +1.78/-1.73	16.300	•	•	•
16.8 +0.50	8.00 -0.80	2.10 ±0.25	0.45	89.78 +1.84/-1.78	16.800	•		
17.3 +0.50	8.00 -0.80	2.10 ±0.25	0.47	92.50 +1.89/-1.84	17.300	•		
17.8 +0.50	8.00 -0.80	2.10 ±0.25	0.48	95.22 +1.95/-1.89	17.800	•		



D mm	TK BC mm	d mm	a mm	30° ±0.5° mm	Code	DK460UF		DK255F
						7940	7353	7370
						330mm	415mm	330mm
18.3 +0.50	9.00 -0.80	2.30 ±0.25	0.50	97.95 +2.00/-1.94	18.300	•	•	•
18.8 +0.50	9.00 -0.80	2.30 ±0.25	0.50	100.67 +2.06/-2.00	18.800	•		
19.3 +0.50	9.00 -0.80	2.30 ±0.25	0.50	103.39 +2.12/-2.05	19.300	•		
19.8 +0.50	9.00 -0.80	2.30 ±0.25	0.50	106.11 +2.17/-2.11	19.800	•		
20.3 +0.50	10.00 -1.00	2.50 ±0.30	0.50	108.83 +2.23/-2.16	20.300	•	•	•
21.3 +0.50	10.00 -1.00	2.50 ±0.30	0.50	114.27 +2.34/-2.27	21.300	•		
22.3 +0.50	10.00 -1.00	2.50 ±0.30	0.50	119.71 +2.45/-2.38	22.300	•		•
23.3 +0.50	12.00 -1.00	2.50 ±0.30	0.50	125.15 +2.56/-2.48	23.300	•		
24.3 +0.50	12.00 -1.00	2.50 ±0.30	0.50	130.59 +2.67/-2.59	24.300	•		
25.3 +0.50	12.00 -1.00	2.50 ±0.30	0.50	136.03 +2.78/-2.70	25.300	•	•	•
26.3 +0.50	12.00 -1.00	2.50 ±0.30	0.50	141.48 +2.90/-2.81	26.300	•		
27.3 +0.50	14.30 -1.20	2.50 ±0.30	0.60	146.92 +3.01/-2.92	27.300	•		
28.3 +0.50	14.80 -1.20	2.50 ±0.30	0.60	152.36 +3.12/-3.02	28.300	•		
29.3 +0.50	15.40 -1.20	2.50 ±0.30	0.60	157.80 +3.23/-3.13	29.300	•		
30.3 +0.50	16.00 -1.20	2.50 ±0.30	0.70	163.24 +3.34/-3.24	30.300	•		
32.3 +0.50	17.20 -1.20	3.00 ±0.30	0.80	174.12 +3.56/-3.46	32.300	•	•	•
33.3 +0.50	17.80 -1.20	3.00 ±0.30	0.80	179.57 +3.67/-3.57	33.300	•		

寸法 | Dimensioning



未研磨材

■ オイルホール付き 2穴30° ねじれ

Rods, raw

■ with 2 coolant ducts, 30° helix

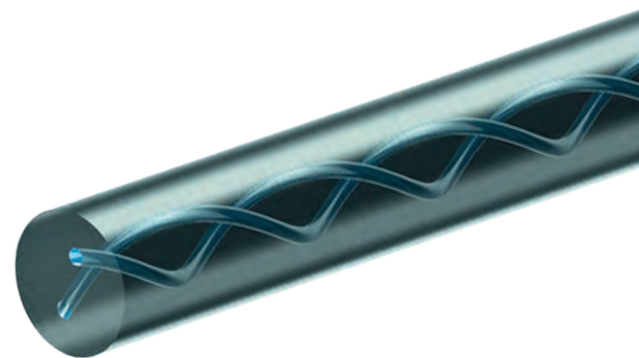
D		TK BC		d	a	ピッチ Pitch	Code	DK460UF 7074	
mm		mm		mm	mm	mm		700mm	
12.8	+0.40	6.10	-0.80	1.40	±0.15	0.30	57.40 ±1.94	12.301	•
12.8	+0.40	6.60	-0.80	1.50	±0.15	0.30	62.80 ±2.19	12.300	•
14.8	+0.40	7.40	-0.80	1.70	±0.20	0.37	71.00 ±2.44	14.300	•
16.8	+0.40	8.60	-0.80	1.90	±0.25	0.40	81.90 ±2.94	16.300	•
18.8	+0.50	9.70	-0.80	2.20	±0.25	0.40	92.80 ±3.33	18.300	•
20.8	+0.50	10.80	-1.00	2.50	±0.30	0.40	103.70 ±3.66	20.300	•
25.8	+0.50	12.80	-1.00	2.70	±0.30	0.40	122.70 ±4.84	25.300	•
30.8	+0.50	15.60	-1.20	3.30	±0.30	0.40	149.90 ±6.04	30.300	•
32.8	+0.50	17.50	-1.20	3.70	±0.30	0.40	169.00 ±6.93	32.300	•

研磨材 径公差 h6

■ オイルホール付き 2穴30° ねじれ

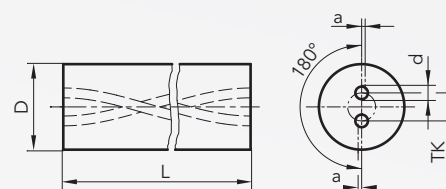
Rods, ground to tolerance h6

■ with 2 coolant ducts, 30° helix



D h6 mm	TK BC mm	d mm	a mm	30° ±0.5° mm	Code	DK460UF	
						7328	7355
						330mm	415mm
6.0	2.60 -0.40	0.70 ±0.10	0.15	32.65 +0.67/-0.65	6.000	•	•
7.0	3.50 -0.40	1.00 ±0.15	0.15	38.09 +0.78/-0.76	7.000	•	
8.0	3.60 -0.40	1.25 ±0.15	0.15	43.53 +0.89/-0.86	8.000	•	•
9.0	4.80 -0.60	1.40 ±0.15	0.20	48.97 +1.00/-0.97	9.000	•	
10.0	4.80 -0.60	1.40 ±0.15	0.20	54.41 +1.11/-1.08	10.000	•	•
11.0	5.30 -0.80	1.40 ±0.15	0.28	59.86 +1.22/-1.19	11.000	•	
12.0	6.25 -0.80	1.55 ±0.15	0.30	65.30 +1.34/-1.30	12.000	•	•
13.0	6.50 -0.80	1.75 ±0.20	0.34	70.74 +1.45/-1.40	13.000	•	
14.0	6.70 -0.80	1.90 ±0.20	0.37	76.18 +1.56/-1.51	14.000	•	•
15.0	7.40 -0.80	1.90 ±0.20	0.40	81.62 +1.67/-1.62	15.000	•	
16.0	8.00 -0.80	2.10 ±0.20	0.40	87.06 +1.78/-1.73	16.000	•	•
17.0	8.00 -0.80	2.10 ±0.20	0.47	92.50 +1.89/-1.84	17.000	•	
18.0	9.00 -0.80	2.30 ±0.25	0.50	97.95 +2.00/-1.94	18.000	•	•
20.0	10.00 -1.00	2.50 ±0.25	0.50	108.83 +2.23/-2.16	20.000	•	•
21.0	10.00 -1.00	2.50 ±0.25	0.50	114.27 +2.34/-2.27	21.000	•	
22.0	10.00 -1.00	2.50 ±0.25	0.50	119.71 +2.45/-2.38	22.000	•	
24.0	12.00 -1.00	2.50 ±0.25	0.50	130.59 +2.67/-2.59	24.000	•	
25.0	12.00 -1.00	2.50 ±0.25	0.50	136.03 +2.78/-2.70	25.000	•	
26.0	12.00 -1.00	2.50 ±0.25	0.50	141.48 +2.90/-2.81	26.000	•	
28.0	14.80 -1.20	2.50 ±0.30	0.60	152.36 +3.12/-3.02	28.000	•	
30.0	16.00 -1.20	2.50 ±0.30	0.70	163.24 +3.34/-3.24	30.000	•	
32.0	17.20 -1.20	3.00 ±0.30	0.80	174.12 +3.56/-3.46	32.000	•	

寸法 | Dimensioning



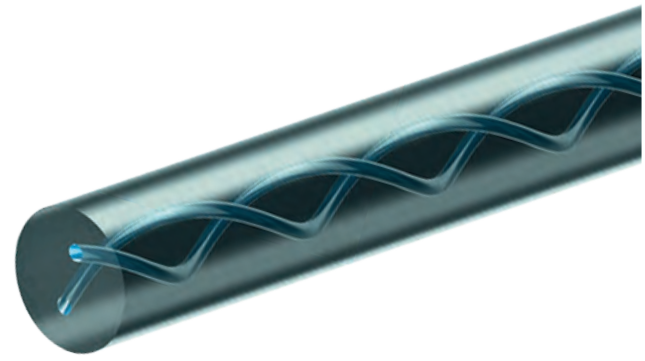
未研磨材

■ オイルホール付き 2穴40° ねじれ

Rods, raw

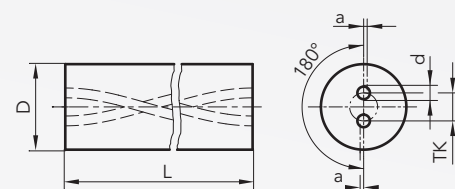
■ with 2 coolant ducts, 40° helix

D mm	TK BC mm	d mm	a mm	40° ±0.5° mm	Code	DK460UF		DK255F
						7935	7385	7397
						330mm	415mm	330mm
6.3 +0.30	2.20 -0.40	0.50 ±0.15	0.15	22.46 +0.40/-0.39	6.300	•		•
6.3 +0.30	1.30 -0.20	0.30 ±0.05	0.10	22.46 +0.40/-0.39	6.301	•		
6.3 +0.30	1.40 -0.40	0.40 ±0.15	0.15	22.46 +0.40/-0.39	6.302	•		
6.8 +0.30	2.30 -0.40	0.50 ±0.15	0.15	24.34 +0.44/-0.43	6.800	•		
7.3 +0.30	2.40 -0.40	0.65 ±0.15	0.15	26.21 +0.47/-0.46	7.300	•		
7.8 +0.30	2.50 -0.40	0.65 ±0.15	0.15	28.08 +0.50/-0.49	7.800	•		
8.3 +0.30	2.70 -0.60	0.65 ±0.15	0.15	29.95 +0.54/-0.53	8.300	•		•
8.3 +0.30	1.70 -0.20	0.40 ±0.10	0.10	29.95 +0.54/-0.53	8.301	•		
8.8 +0.30	2.90 -0.60	0.65 ±0.15	0.20	31.82 +0.57/-0.56	8.800	•		
9.3 +0.30	3.20 -0.60	0.75 ±0.15	0.20	33.70 +0.60/-0.59	9.300	•		
9.8 +0.30	3.50 -0.60	0.75 ±0.15	0.20	35.57 +0.64/-0.62	9.800	•		
10.3 +0.40	3.50 -0.80	0.80 ±0.15	0.20	37.44 +0.67/-0.66	10.300	•	•	•
10.3 +0.40	2.10 -0.20	0.50 ±0.10	0.20	37.44 +0.67/-0.66	10.301	•		
10.3 +0.40	3.00 -0.40	1.00 ±0.20	0.20	37.44 +0.67/-0.66	10.302	•		
10.8 +0.40	3.50 -0.80	0.80 ±0.15	0.28	39.31 +0.70/-0.69	10.800	•		
11.3 +0.40	3.70 -0.80	0.80 ±0.15	0.28	41.18 +0.74/-0.72	11.300	•		
11.8 +0.40	4.00 -0.80	0.85 ±0.15	0.30	43.06 +0.77/-0.76	11.800	•		
12.3 +0.40	4.20 -0.80	0.90 ±0.20	0.30	44.93 +0.80/-0.79	12.300	•	•	•
12.3 +0.40	2.50 -0.40	0.60 ±0.10	0.20	44.93 +0.80/-0.79	12.301	•		
12.8 +0.40	4.35 -0.80	0.90 ±0.20	0.33	46.80 +0.84/-0.82	12.800	•		
13.3 +0.40	4.40 -0.80	0.90 ±0.20	0.34	48.67 +0.87/-0.85	13.300	•		
14.3 +0.40	4.70 -0.80	1.00 ±0.20	0.37	52.42 +0.94/-0.92	14.300	•	•	•
14.3 +0.40	2.90 -0.40	0.70 ±0.10	0.20	52.42 +0.94/-0.92	14.301	•		
14.8 +0.40	4.90 -0.80	1.10 ±0.20	0.39	54.29 +0.97/-0.95	14.800	•		
15.3 +0.50	5.10 -0.80	1.10 ±0.20	0.40	56.16 +1.01/-0.99	15.300	•		
16.3 +0.50	5.50 -0.80	1.20 ±0.20	0.40	59.90 +1.07/-1.05	16.300	•	•	•
16.3 +0.50	3.30 -0.40	0.80 ±0.10	0.20	59.90 +1.07/-1.05	16.301	•		
16.8 +0.50	5.75 -0.80	1.20 ±0.20	0.45	61.78 +1.11/-1.08	16.800	•		
17.3 +0.50	5.90 -0.80	1.20 ±0.25	0.47	63.65 +1.14/-1.12	17.300	•		
18.3 +0.50	6.30 -0.80	1.40 ±0.25	0.50	67.39 +1.21/-1.18	18.300	•	•	
18.3 +0.50	3.70 -0.40	0.90 ±0.15	0.20	67.39 +1.21/-1.18	18.301	•		



D mm	TK BC mm	d mm	a mm	40° ±0.5° mm	Code	DK460UF		DK255F
						7935	7385	7397
						330mm	415mm	330mm
19.3 +0.50	6.70 -1.00	1.40 ±0.25	0.50	71.14 +1.27/-1.25	19.300	•		
20.3 +0.50	7.10 -1.00	1.50 ±0.25	0.50	74.88 +1.34/-1.31	20.300	•	•	•
20.3 +0.50	4.10 -0.40	1.00 ±0.15	0.20	74.88 +1.34/-1.31	20.301	•		
21.3 +0.50	7.40 -1.00	1.50 ±0.25	0.50	78.62 +1.41/-1.38	21.300	•		
22.3 +0.50	7.70 -1.00	1.70 ±0.25	0.50	82.37 +1.48/-1.44	22.300	•		
24.3 +0.50	8.00 -1.00	1.75 ±0.25	0.50	89.86 +1.61/-1.58	24.300	•		
25.3 +0.50	8.10 -1.00	1.75 ±0.25	0.50	93.60 +1.68/-1.64	25.300	•	•	•
25.3 +0.50	5.10 -0.60	1.30 ±0.15	0.20	93.60 +1.68/-1.64	25.301	•		
26.3 +0.50	8.20 -1.00	1.75 ±0.25	0.50	97.34 +1.74/-1.71	26.300	•		
28.3 +0.50	9.00 -1.20	2.00 ±0.30	0.50	104.83 +1.88/-1.84	28.300	•		
30.3 +0.50	10.00 -1.20	2.00 ±0.30	0.50	112.32 +2.01/-1.97	30.300	•		
32.3 +0.50	11.00 -1.20	2.00 ±0.30	0.50	119.81 +2.15/-2.10	32.300	•	•	
32.3 +0.50	6.50 -0.80	1.60 ±0.20	0.25	119.81 +2.15/-2.10	32.301	•		

寸法 | Dimensioning



研磨材 径公差 h6

■ オイルホール付き 2穴40° ねじれ

Rods, ground to tolerance h6

■ with 2 coolant ducts, 40° helix

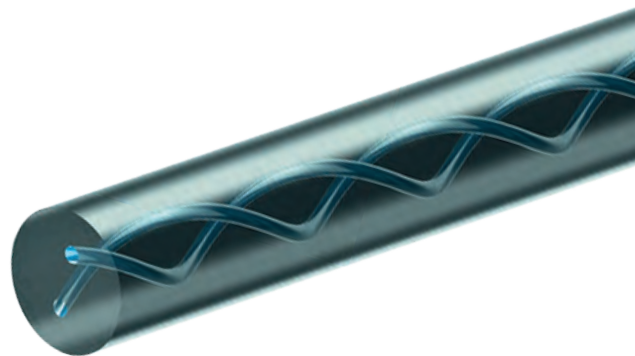
D h6 mm	TK BC mm	d mm	a mm	40° ±0.5° mm	Code	DK460UF 7330
						330mm
6.0	2.20 -0.40	0.50 ±0.15	0.15	22.46 +0.40/-0.39	6.000	•
6.0	1.30 -0.20	0.30 ±0.05	0.10	22.46 +0.40/-0.39	6.001	•
6.0	1.40 -0.40	0.40 ±0.15	0.15	22.46 +0.40/-0.39	6.002	•
7.0	2.40 -0.40	0.65 ±0.15	0.15	26.21 +0.47/-0.46	7.000	•
8.0	2.70 -0.60	0.65 ±0.15	0.15	29.95 +0.54/-0.53	8.000	•
8.0	1.70 -0.20	0.40 ±0.10	0.10	29.95 +0.54/-0.53	8.001	•
9.0	3.20 -0.60	0.75 ±0.15	0.20	33.70 +0.60/-0.59	9.000	•
10.0	3.50 -0.80	0.80 ±0.15	0.20	37.44 +0.67/-0.66	10.000	•
10.0	2.10 -0.20	0.50 ±0.10	0.20	37.44 +0.67/-0.66	10.001	•
11.0	3.70 -0.80	0.80 ±0.15	0.28	41.18 +0.74/-0.72	11.000	•
12.0	4.20 -0.80	0.90 ±0.20	0.30	44.93 +0.80/-0.79	12.000	•
12.0	2.50 -0.40	0.60 ±0.10	0.20	44.93 +0.80/-0.79	12.001	•
13.0	4.40 -0.80	0.90 ±0.20	0.34	48.67 +0.87/-0.85	13.000	•
14.0	4.70 -0.80	1.00 ±0.20	0.37	52.42 +0.94/-0.92	14.000	•
14.0	2.90 -0.40	0.70 ±0.10	0.20	52.42 +0.94/-0.92	14.001	•
15.0	5.10 -0.80	1.10 ±0.20	0.40	56.16 +1.01/-0.99	15.000	•
16.0	5.50 -0.80	1.20 ±0.20	0.47	59.90 +1.07/-1.05	16.000	•
16.0	3.30 -0.40	0.80 ±0.10	0.20	59.90 +1.07/-1.05	16.001	•
18.0	6.30 -0.80	1.40 ±0.25	0.50	67.39 +1.21/-1.18	18.000	•
18.0	3.70 -0.40	0.90 ±0.15	0.20	67.39 +1.21/-1.18	18.001	•
20.0	7.10 -1.00	1.50 ±0.25	0.50	74.88 +1.34/-1.31	20.000	•
20.0	4.10 -1.00	1.00 ±0.15	0.20	74.88 +1.34/-1.31	20.001	•
22.0	7.70 -1.00	1.70 ±0.25	0.50	82.37 +1.48/-1.44	22.000	•
25.0	8.10 -1.00	1.75 ±0.25	0.50	93.60 +1.68/-1.64	25.000	•
25.0	5.10 -0.60	1.30 ±0.15	0.20	93.60 +1.68/-1.64	25.001	•
26.0	8.20 -1.00	1.75 ±0.25	0.50	97.34 +1.74/-1.71	26.000	•

未研磨材

■ オイルホール付き 2穴マイクロツイストタイプ

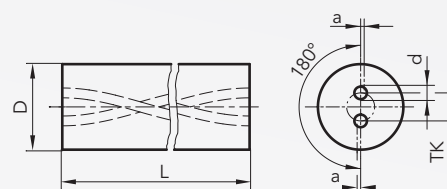
Rods, raw

■ with 2 coolant ducts, microtwisted



D mm	TK BC mm	d mm	a mm	ピッチ Pitch mm	Code	DK460UF 7039
						330mm
4.3 +0.30	0.50 ±0.1	0.23 ±0.05	0.10	10.79 ±0.2	4.125	•
4.3 +0.30	0.80 ±0.1	0.23 ±0.05	0.10	11.12 ±0.2	4.165	•
4.3 +0.30	1.00 ±0.2	0.30 ±0.05	0.10	10.61 ±0.2	4.195	•
6.3 +0.30	1.00 ±0.2	0.45 ±0.05	0.15	12.79 ±0.3	6.225	•
6.3 +0.30	1.20 ±0.2	0.50 ±0.06	0.15	15.24 ±0.3	6.275	•
6.3 +0.30	1.50 ±0.2	0.55 ±0.07	0.15	17.68 ±0.3	6.325	•
6.3 +0.30	1.70 ±0.2	0.60 ±0.08	0.15	20.41 ±0.3	6.375	•
6.3 +0.30	2.00 ±0.2	0.70 ±0.10	0.15	23.13 ±0.3	6.425	•
6.3 +0.30	2.30 ±0.2	0.80 ±0.10	0.15	25.85 ±0.3	6.475	•
6.3 +0.30	2.60 ±0.2	0.90 ±0.10	0.15	28.57 ±0.3	6.525	•
6.3 +0.30	2.80 ±0.2	1.00 ±0.10	0.15	31.29 ±0.3	6.575	•

寸法 | Dimensioning



未研磨材

■ オイルホール付き 3穴30° ねじれ

Rods, raw

■ with 3 coolant ducts, 30° helix

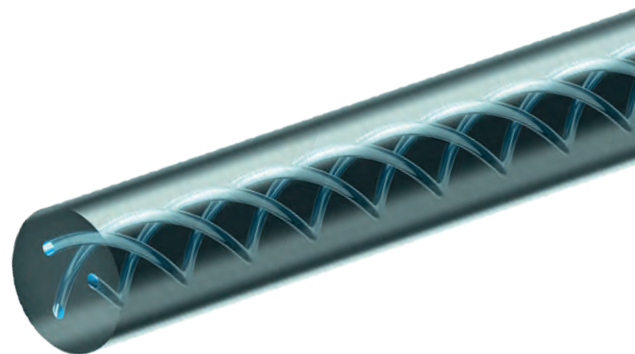
D mm	TK BC mm	d mm	a	30° ±0.5° mm	Code	DK460UF	
						7933	7383
						330mm	415mm
6.3 +0.30	2.90 -0.30	0.50 ±0.10	±4°	32.65 +0.67/-0.65	6.300	•	
6.8 +0.30	2.90 -0.30	0.50 ±0.10	±4°	35.37 +0.72/-0.70	6.800	•	
8.3 +0.30	4.00 -0.30	0.70 ±0.10	±4°	43.53 +0.89/-0.86	8.300	•	
8.8 +0.30	4.00 -0.30	0.70 ±0.10	±4°	46.25 +0.95/-0.92	8.800	•	
9.3 +0.30	5.10 -0.30	0.85 ±0.15	±4°	48.97 +1.00/-0.97	9.300	•	
10.3 +0.30	5.10 -0.30	0.85 ±0.15	±4°	54.41 +1.11/-1.08	10.300	•	•
10.8 +0.40	5.10 -0.50	0.85 ±0.15	±4°	57.13 +1.17/-1.13	10.800	•	
11.3 +0.40	5.70 -0.50	1.10 ±0.15	±4°	59.86 +1.22/-1.19	11.300	•	
11.8 +0.40	6.10 -0.50	1.10 ±0.15	±4°	62.58 +1.28/-1.24	11.800	•	
12.3 +0.40	6.30 -0.50	1.10 ±0.15	±4°	65.30 +1.34/-1.30	12.300	•	•
12.8 +0.40	6.30 -0.50	1.10 ±0.15	±4°	68.02 +1.39/-1.35	12.800	•	
13.3 +0.40	6.80 -0.50	1.20 ±0.15	±4°	70.74 +1.45/-1.40	13.300	•	
14.3 +0.40	7.30 -0.50	1.40 ±0.15	±4°	76.18 +1.56/-1.51	14.300	•	•
14.8 +0.40	7.60 -0.50	1.40 ±0.15	±4°	78.90 +1.61/-1.57	14.800	•	
15.3 +0.40	7.80 -0.50	1.40 ±0.15	±4°	81.62 +1.67/-1.62	15.300	•	
16.3 +0.40	8.30 -0.50	1.60 ±0.15	±4°	87.06 +1.78/-1.73	16.300	•	•
16.8 +0.50	8.30 -0.50	1.60 ±0.20	±4°	89.78 +1.84/-1.78	16.800	•	
17.3 +0.50	8.60 -0.50	1.60 ±0.20	±4°	92.50 +1.89/-1.84	17.300	•	
18.3 +0.50	9.50 -0.50	1.70 ±0.20	±4°	97.95 +2.00/-1.94	18.300	•	•
20.3 +0.50	10.20 -0.70	1.90 ±0.25	±4°	108.83 +2.23/-2.16	20.300	•	•
21.3 +0.50	11.10 -0.70	2.00 ±0.25	±4°	114.27 +2.34/-2.27	21.300	•	
22.3 +0.50	11.50 -0.70	2.00 ±0.25	±4°	119.71 +2.45/-2.38	22.300	•	
23.3 +0.50	11.80 -0.70	2.00 ±0.25	±4°	125.15 +2.56/-2.48	23.300	•	
24.3 +0.50	12.10 -0.70	2.00 ±0.25	±4°	130.59 +2.67/-2.59	24.300	•	
25.3 +0.50	12.50 -0.70	2.00 ±0.25	±4°	136.03 +2.78/-2.70	25.300	•	•
26.3 +0.50	13.10 -0.70	2.00 ±0.25	±4°	141.48 +2.90/-2.81	26.300	•	
27.3 +0.50	13.60 -0.90	2.50 ±0.30	±4°	146.92 +3.01/-2.92	27.300	•	
28.3 +0.50	14.10 -0.90	2.50 ±0.30	±4°	152.36 +3.12/-3.02	28.300	•	
29.3 +0.50	14.60 -0.90	2.50 ±0.30	±4°	157.80 +3.23/-3.13	29.300	•	
32.3 +0.50	16.10 -1.20	3.00 ±0.30	±4°	174.12 +3.56/-3.46	32.300	•	•
33.3 +0.50	16.60 -1.20	3.00 ±0.30	±4°	179.57 +3.67/-3.57	33.300	•	

研磨材 径公差 h6

■ オイルホール付き 3穴30° ねじれ

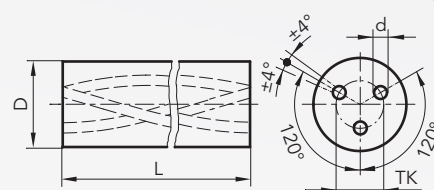
Rods, ground to tolerance h6

■ with 3 coolant ducts, 30° helix



D h6 mm	TK BC mm	d mm	a	30° ±0.5° mm	Code	DK460UF 7358
						330mm
6.0	2.90 -0.30	0.50 ±0.10	±4°	32.65 +0.67/-0.65	6.000	•
8.0	4.00 -0.30	0.70 ±0.10	±4°	43.53 +0.89/-0.86	8.000	•
10.0	5.10 -0.30	0.85 ±0.15	±4°	54.41 +1.11/-1.08	10.000	•
12.0	6.30 -0.50	1.10 ±0.15	±4°	65.30 +1.34/-1.30	12.000	•
14.0	7.30 -0.50	1.40 ±0.15	±4°	76.18 +1.56/-1.51	14.000	•
16.0	8.30 -0.50	1.60 ±0.15	±4°	87.06 +1.78/-1.73	16.000	•
18.0	9.50 -0.50	1.70 ±0.20	±4°	97.95 +2.00/-1.94	18.000	•
20.0	10.20 -0.70	1.90 ±0.25	±4°	108.83 +2.23/-2.16	20.000	•
22.0	11.50 -0.70	2.00 ±0.25	±4°	119.71 +2.45/-2.38	22.000	•
25.0	12.50 -0.70	2.00 ±0.25	±4°	136.03 +2.78/-2.70	25.000	•
26.0	13.10 -0.70	2.00 ±0.25	±4°	141.48 +2.90/-2.81	26.000	•
28.0	14.10 -0.90	2.50 ±0.30	±4°	152.36 +3.12/-3.02	28.000	•
32.0	16.10 -1.20	3.00 ±0.30	±4°	174.12 +3.56/-3.46	32.000	•

寸法 | Dimensioning



未研磨材

■ オイルホール付き 3穴40° ねじれ

Rods, raw

■ with 3 coolant ducts, 40° helix

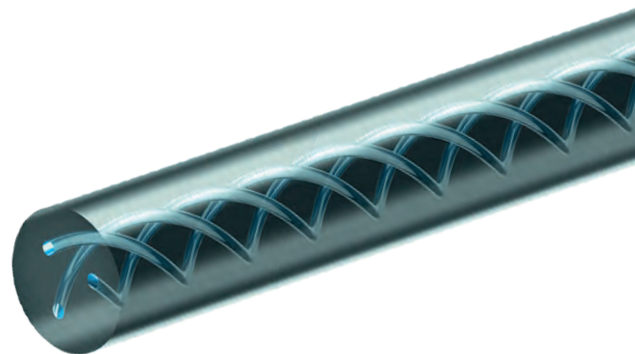
D mm	TK BC mm	d mm	a	40° ±0.5° mm	Code	DK460UF	
						7934	7384
						330mm	415mm
6.3 +0.30	2.20 -0.30	0.50 ±0.15	±4°	22.46 +0.40/-0.39	6.300	•	
8.3 +0.30	2.70 -0.30	0.65 ±0.15	±4°	29.95 +0.54/-0.53	8.300	•	•
8.8 +0.30	2.90 -0.30	0.65 ±0.15	±4°	31.82 +0.57/-0.56	8.800	•	
10.3 +0.40	3.50 -0.30	0.80 ±0.15	±4°	37.44 +0.67/-0.66	10.300	•	•
12.3 +0.40	4.20 -0.50	0.90 ±0.20	±4°	44.93 +0.80/-0.79	12.300	•	
12.8 +0.40	4.35 -0.50	0.90 ±0.20	±4°	46.80 +0.84/-0.82	12.800	•	
14.3 +0.40	4.70 -0.50	1.00 ±0.20	±4°	52.42 +0.94/-0.92	14.300	•	•
15.3 +0.50	5.10 -0.50	1.10 ±0.20	±4°	56.16 +1.01/-0.99	15.300	•	
15.8 +0.50	5.30 -0.50	1.10 ±0.20	±4°	58.03 +1.04/-1.02	15.800	•	
16.3 +0.50	5.50 -0.50	1.20 ±0.20	±4°	59.90 +1.07/-1.05	16.300	•	•
16.8 +0.50	5.75 -0.50	1.20 ±0.20	±4°	61.78 +1.11/-1.08	16.800	•	
18.3 +0.50	6.30 -0.50	1.40 ±0.25	±4°	67.39 +1.21/-1.18	18.300	•	
18.8 +0.50	6.50 -0.50	1.40 ±0.25	±4°	69.26 +1.24/-1.21	18.800	•	
19.3 +0.50	6.70 -0.70	1.40 ±0.25	±4°	71.14 +1.27/-1.25	19.300	•	
20.3 +0.50	7.10 -0.70	1.50 ±0.25	±4°	74.88 +1.34/-1.31	20.300	•	
21.3 +0.50	7.40 -0.70	1.50 ±0.25	±4°	78.62 +1.41/-1.38	21.300	•	
22.3 +0.50	7.70 -0.70	1.70 ±0.25	±4°	82.37 +1.48/-1.44	22.300	•	
24.3 +0.50	8.00 -0.90	1.75 ±0.25	±4°	89.86 +1.61/-1.58	24.300	•	
25.3 +0.50	8.10 -0.90	1.75 ±0.25	±4°	93.60 +1.68/-1.64	25.300	•	
26.3 +0.50	8.20 -0.90	1.75 ±0.25	±4°	97.34 +1.74/-1.71	26.300	•	
28.3 +0.50	9.00 -0.90	2.00 ±0.30	±4°	104.83 +1.88/-1.84	28.300	•	
30.3 +0.50	10.00 -1.10	2.00 ±0.30	±4°	112.32 +2.01/-1.97	30.300	•	
32.3 +0.50	11.00 -1.10	2.00 ±0.30	±4°	119.81 +2.15/-2.10	32.300	•	•

研磨材 径公差 h6

■ オイルホール付き 3穴40° ねじれ

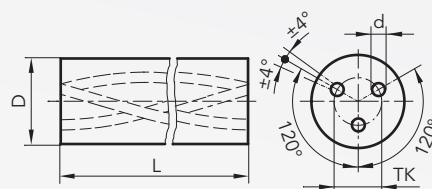
Rods, ground to tolerance h6

■ with 3 coolant ducts, 40° helix



D h6 mm	TK BC mm	d mm	a	40° ±0.5° mm	Code	DK460UF 7359
						330mm
6.0	2.20 -0.30	0.50 ±0.15	±4°	22.46 +0.40/-0.39	6.000	•
8.0	2.70 -0.30	0.65 ±0.15	±4°	29.95 +0.54/-0.53	8.000	•
10.0	3.50 -0.30	0.80 ±0.15	±4°	37.44 +0.67/-0.66	10.000	•
12.0	4.20 -0.50	0.90 ±0.20	±4°	44.93 +0.80/-0.79	12.000	•
14.0	4.70 -0.50	1.00 ±0.20	±4°	52.42 +0.94/-0.92	14.000	•
16.0	5.50 -0.50	1.20 ±0.20	±4°	59.90 +1.07/-1.05	16.000	•
18.0	6.30 -0.50	1.40 ±0.25	±4°	67.39 +1.21/-1.18	18.000	•
20.0	7.10 -0.70	1.50 ±0.25	±4°	74.88 +1.34/-1.31	20.000	•
22.0	7.70 -0.70	1.70 ±0.25	±4°	82.37 +1.48/-1.44	22.000	•
25.0	8.10 -0.90	1.75 ±0.25	±4°	93.60 +1.68/-1.64	25.000	•

寸法 | Dimensioning



エンドミル用研磨材 径公差 h6

■ 内部標準による片側面取り

Milling cutter blanks, ground to tolerance h6

■ chamfered one end, to internal standard

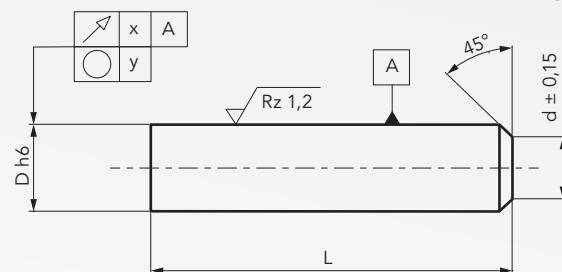
D h6 mm	d mm	L mm	x mm	y mm	Code	DK460UF 7540
2.0		32.5 +0.60	0.004	0.003	2.000	•
2.5		32.5 +0.60	0.004	0.003	2.500	•
3.0	2.4	32.5 +0.60	0.004	0.002	3.000	•
*3.0	2.4	39.5 +0.60	0.004	0.002	3.001	•
3.0	2.4	76.2 +0.90	0.008	0.002	3.002	•
3.0	2.4	38.3 +0.60	0.004	0.002	3.003	•
3.0	2.4	47.3 +0.70	0.005	0.002	3.004	•
3.0	2.4	52.3 +0.70	0.005	0.002	3.005	•
3.0	2.4	45.0 +0.70	0.005	0.002	3.007	•
3.5	2.9	32.5 +0.60	0.005	0.002	3.500	•
*4.0	3.4	51.0 +0.70	0.005	0.002	4.000	•
*4.0	3.4	40.5 +0.60	0.005	0.002	4.001	•
4.0	3.4	32.5 +0.60	0.005	0.002	4.002	•
4.0	3.4	76.2 +0.90	0.008	0.002	4.003	•
4.0	3.4	59.3 +0.80	0.008	0.002	4.004	•
4.0	3.4	63.5 +0.80	0.008	0.002	4.005	•
4.0	3.4	67.5 +0.80	0.008	0.002	4.006	•
*4.5	3.9	51.2 +0.70	0.005	0.002	4.500	•
*5.0	4.0	51.2 +0.70	0.005	0.002	5.000	•
5.0	4.0	76.2 +0.90	0.006	0.002	5.001	•
5.5	4.5	51.2 +0.70	0.005	0.002	5.500	•
*5.5	4.5	58.2 +0.80	0.006	0.002	5.501	•
*6.0	5.0	51.2 +0.70	0.006	0.002	6.000	•
*6.0	5.0	55.0 +0.70	0.006	0.002	6.001	•
*6.0	5.0	58.2 +0.80	0.006	0.002	6.002	•
6.0	5.0	39.0 +0.60	0.004	0.002	6.003	•
6.0	5.0	76.2 +0.90	0.008	0.002	6.004	•
6.0	5.0	37.2 +0.60	0.004	0.002	6.005	•
6.0	5.0	40.2 +0.60	0.005	0.002	6.006	•
6.0	5.0	46.2 +0.70	0.005	0.002	6.007	•
*6.0	5.0	66.2 +0.80	0.006	0.002	6.008	•
6.0	5.0	60.5 +0.80	0.006	0.003	6.009	•
6.0	5.0	63.0 +0.80	0.006	0.002	6.013	•
*6.5	4.5	61.5 +0.80	0.006	0.003	6.500	•
*7.0	5.0	61.5 +0.80	0.006	0.003	7.000	•
7.5	5.5	61.5 +0.80	0.006	0.003	7.500	•
*7.5	5.5	64.2 +0.80	0.006	0.003	7.501	•

*DIN 6527/6528 準拠ミリングカッター用
*for milling cutters in accordance with DIN 6527/6528



D h6 mm	d mm	L mm	x mm	y mm	Code	DK460UF 7540
*8.0	6.0	59.0 +0.80	0.006	0.003	8.000	•
*8.0	6.0	64.2 +0.80	0.006	0.003	8.001	•
8.0	6.0	44.0 +0.70	0.005	0.003	8.002	•
8.0	6.0	62.0 +0.80	0.006	0.003	8.003	•
8.0	6.0	76.2 +0.90	0.007	0.003	8.004	•
8.0	6.0	101.2 +1.00	0.008	0.003	8.005	•
8.0	6.0	56.2 +0.80	0.006	0.003	8.006	•
8.0	6.0	82.0 +0.90	0.008	0.003	8.007	•
8.0	6.0	87.2 +0.90	0.008	0.003	8.008	•
8.0	6.0	73.5 +0.90	0.008	0.003	8.015	•
8.5	6.5	62.0 +0.80	0.006	0.003	8.500	•
*8.5	6.5	68.2 +0.80	0.007	0.003	8.501	•
9.0	7.0	62.0 +0.80	0.006	0.003	9.000	•
*9.0	7.0	68.2 +0.80	0.007	0.003	9.001	•
*9.5	7.5	73.2 +0.90	0.008	0.003	9.501	•
*10.0	8.0	67.2 +0.80	0.007	0.003	10.000	•
10.0	8.0	71.0 +0.80	0.008	0.003	10.001	•
*10.0	8.0	73.2 +0.90	0.008	0.003	10.002	•
10.0	8.0	51.0 +0.70	0.005	0.003	10.003	•
10.0	8.0	101.2 +1.00	0.008	0.003	10.004	•
10.0	8.0	49.2 +0.70	0.005	0.003	10.005	•
10.0	8.0	56.2 +0.80	0.006	0.003	10.006	•
10.0	8.0	77.0 +0.90	0.008	0.003	10.007	•
*10.0	8.0	81.2 +0.90	0.008	0.003	10.008	•
10.0	8.0	91.2 +1.00	0.008	0.003	10.009	•
10.0	8.0	84.0 +0.90	0.008	0.003	10.012	•
11.0	9.0	72.0 +0.90	0.008	0.003	11.000	•
*11.0	9.0	84.2 +0.90	0.008	0.003	11.001	•

寸法 | Dimensioning



エンドミル用研磨材 径公差 h6

■ 内部標準による片側面取り

Milling cutter blanks, ground to tolerance h6

■ chamfered one end, to internal standard

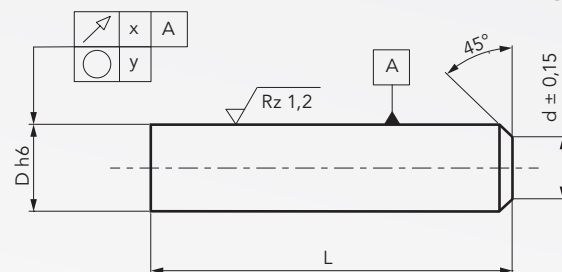
D h6 mm	d mm	L mm	x mm	y mm	Code	DK460UF 7540
*12.0	12.0	74.2 +0.90	0.008	0.003	12.000	•
*12.0	12.0	84.2 +0.90	0.008	0.003	12.001	•
12.0	12.0	70.0 +0.80	0.008	0.003	12.002	•
12.0	12.0	72.0 +0.90	0.008	0.003	12.003	•
12.0	12.0	101.2 +1.00	0.008	0.003	12.004	•
12.0	12.0	151.2 +1.50	0.010	0.003	12.005	•
12.0	12.0	56.2 +0.80	0.006	0.003	12.006	•
*12.0	12.0	94.2 +1.00	0.008	0.003	12.007	•
12.0	12.0	121.0 +1.20	0.010	0.003	12.008	•
12.0	10.0	110.0 +1.10	0.010	0.003	12.013	•
13.0	11.0	77.0 +0.90	0.008	0.003	13.000	•
*13.0	11.0	84.2 +0.90	0.008	0.003	13.001	•
*14.0	12.0	84.2 +0.90	0.008	0.003	14.000	•
*14.0	12.0	76.2 +0.90	0.008	0.003	14.001	•
14.0	12.0	151.2 +1.50	0.010	0.003	14.002	•
14.0	12.0	59.2 +0.80	0.008	0.003	14.003	•
14.0	12.0	101.2 +1.00	0.008	0.003	14.004	•
15.0	12.0	77.0 +0.90	0.008	0.003	15.000	•
*15.0	12.0	93.2 +1.00	0.008	0.003	15.001	•
*16.0	13.0	93.2 +1.00	0.008	0.003	16.000	•
*16.0	13.0	83.2 +0.90	0.008	0.003	16.001	•
16.0	13.0	75.0 +0.90	0.008	0.003	16.002	•
16.0	13.0	77.0 +0.90	0.008	0.003	16.003	•
16.0	13.0	151.2 +1.50	0.010	0.003	16.004	•
16.0	13.0	63.2 +0.80	0.008	0.003	16.005	•
*16.0	13.0	109.2 +1.10	0.009	0.003	16.006	•
16.0	13.0	126.0 +1.20	0.010	0.003	16.007	•
18.0	15.0	101.0 +1.00	0.009	0.003	18.000	•
*18.0	15.0	85.0 +0.90	0.008	0.003	18.001	•
*18.0	15.0	93.0 +1.00	0.008	0.003	18.002	•
18.0	15.0	151.2 +1.50	0.010	0.003	18.003	•
18.0	15.0	71.2 +0.90	0.008	0.003	18.004	•

*DIN 6527/6528準拠ミーリングカッター用
*for milling cutters in accordance with DIN 6527/6528



D h6 mm	d mm	L mm	x mm	y mm	Code	DK460UF 7540
*20.0	17.0	93.2 +1.00	0.008	0.004	20.000	•
*20.0	17.0	105.0 +1.00	0.008	0.004	20.001	•
20.0	17.0	100.0 +1.00	0.008	0.004	20.002	•
20.0	17.0	102.0 +1.00	0.008	0.004	20.003	•
20.0	17.0	151.2 +1.50	0.010	0.004	20.004	•
20.0	17.0	76.2 +0.90	0.008	0.004	20.005	•
20.0	17.0	127.2 +1.20	0.010	0.004	20.006	•
20.0	17.0	175.7 +2.10	0.011	0.004	20.007	•
25.0	22.0	103.0 +1.00	0.010	0.004	25.000	•
25.0	22.0	123.0 +1.20	0.010	0.004	25.001	•
25.0	22.0	151.2 +1.60	0.010	0.004	25.002	•
25.0	22.0	175.7 +2.10	0.011	0.004	25.003	•
32.0	28.0	134.2 +1.30	0.010	0.005	32.000	•
32.0	28.0	187.2 +2.40	0.012	0.005	32.001	•
32.0	28.0	311.5 +10.00	0.040	0.005	32.002	•

寸法 | Dimensioning



エンドミル用研磨材 径公差 h6

■ 片側面取り

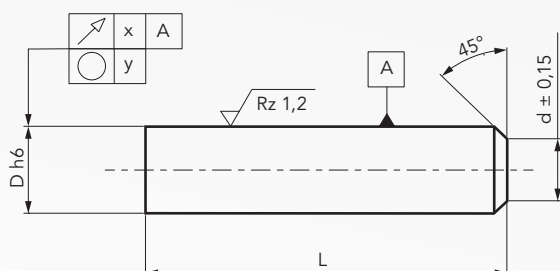
Milling cutter blanks,
ground to tolerance h6

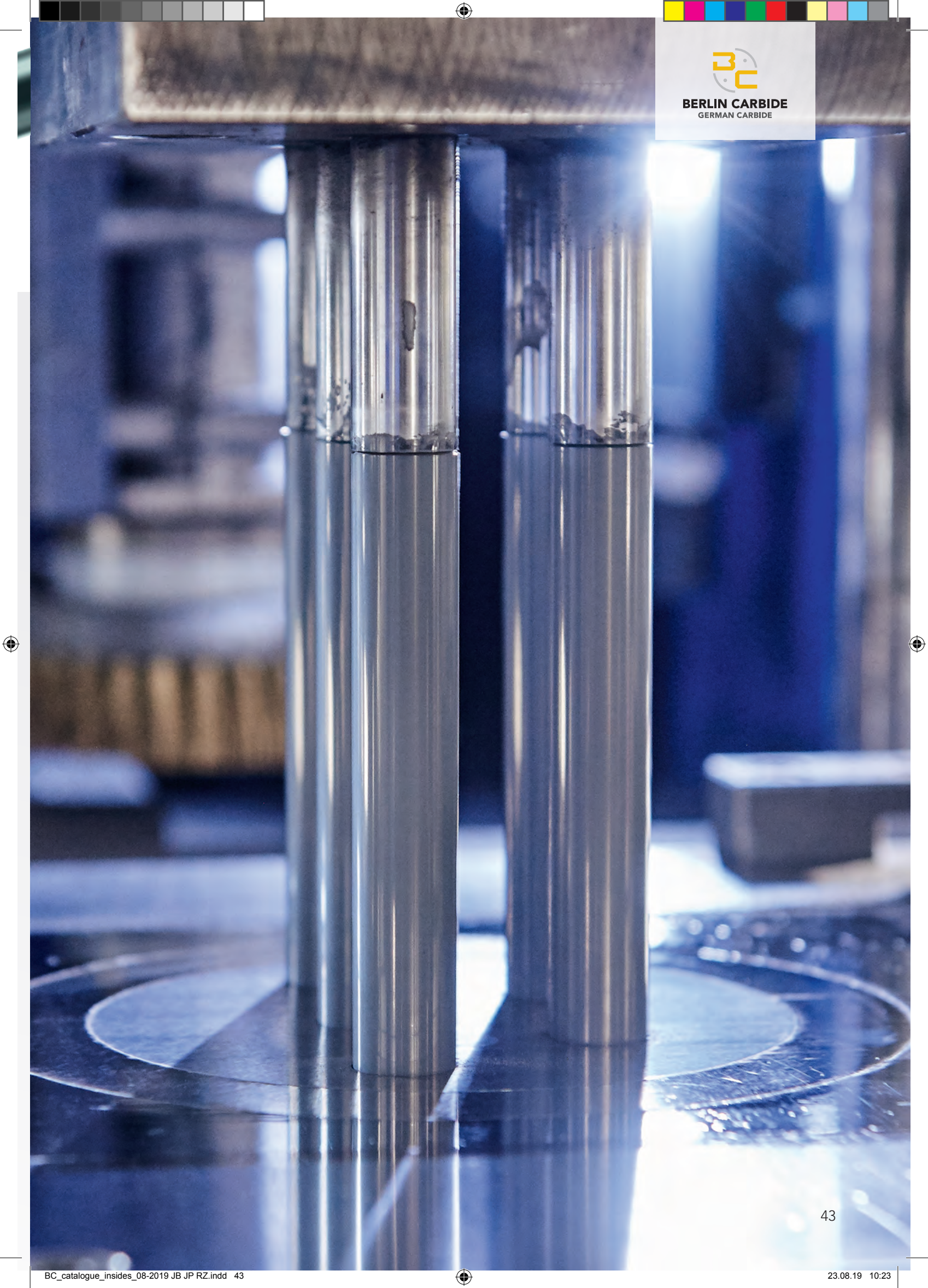
■ chamfered one end



D h6 mm	d mm	L mm	x mm	y mm	Code	DK500UF 7556
3.0	2.4	39.5 +0.60	0.004	0.002	3.000	•
4.0	3.4	51.0 +0.70	0.005	0.002	4.000	•
4.0	3.4	76.2 +0.90	0.008	0.002	4.001	•
6.0	5.0	57.5 +0.80	0.006	0.002	6.000	•
6.0	5.0	76.0 +0.90	0.008	0.002	6.001	•
6.0	5.0	80.5 +0.90	0.008	0.002	6.002	•
6.0	5.0	100.5 +1.00	0.008	0.002	6.003	•
8.0	6.0	63.5 +0.80	0.007	0.003	8.000	•
8.0	6.0	100.5 +1.00	0.008	0.003	8.001	•
8.0	6.0	120.5 +1.20	0.010	0.003	8.002	•
10.0	8.0	72.5 +0.90	0.008	0.003	10.000	•
10.0	8.0	101.0 +1.00	0.008	0.003	10.001	•
10.0	8.0	120.5 +1.20	0.010	0.003	10.002	•
10.0	8.0	150.5 +1.60	0.010	0.003	10.003	•
12.0	10.0	83.5 +0.90	0.008	0.003	12.000	•
12.0	10.0	151.0 +1.50	0.010	0.003	12.001	•
12.0	10.0	120.5 +1.20	0.010	0.003	12.002	•
14.0	12.0	84.0 +0.90	0.008	0.003	14.000	•
16.0	13.0	93.0 +1.00	0.008	0.003	16.000	•
16.0	13.0	151.0 +1.50	0.010	0.003	16.001	•
20.0	17.0	105.0 +1.00	0.008	0.004	20.000	•
20.0	17.0	151.0 +1.50	0.010	0.004	20.001	•

寸法 | Dimensioning





エンドミル用研磨材 径公差 h6

■ インチサイズ、片側面取り

Milling cutter blanks, ground to tolerance h6

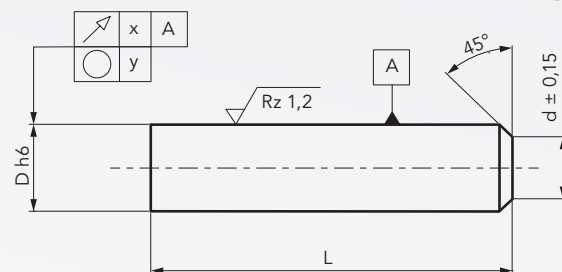
■ in inches, chamfered one end

D h6		d	L		x	y	Code	DK400N 7541
inches/mm		mm	inches/mm		mm	mm		
1/8	3.175	2.575	1 1/2	38.1 +0.60	0.004	0.002	18.112	•
1/8	3.175	2.575	2	50.8 +0.70	0.005	0.002	18.200	•
1/8	3.175	2.575	3	76.2 +0.90	0.008	0.002	18.300	•
1/8	3.175	2.575	4	101.6 +1.00	0.008	0.002	18.400	•
3/16	4.763	3.763	1 1/2	38.1 +0.60	0.005	0.002	316.112	•
3/16	4.763	3.763	2	50.8 +0.70	0.005	0.002	316.200	•
3/16	4.763	3.763	2 1/2	63.5 +0.80	0.006	0.002	316.212	•
3/16	4.763	3.763	3	76.2 +0.90	0.008	0.002	316.300	•
1/4	6.350	5.350	2	50.8 +0.70	0.005	0.003	14.200	•
1/4	6.350	5.350	2 1/2	63.5 +0.80	0.006	0.003	14.212	•
1/4	6.350	5.350	3	76.2 +0.90	0.008	0.003	14.300	•
1/4	6.350	5.350	3 1/4	82.6 +0.90	0.008	0.003	14.314	•
1/4	6.350	5.350	4	101.6 +1.00	0.008	0.003	14.400	•
5/16	7.938	5.938	2	50.8 +0.70	0.005	0.003	516.200	•
5/16	7.938	5.938	2 1/2	63.5 +0.80	0.006	0.003	516.212	•
5/16	7.938	5.938	3	76.2 +0.90	0.008	0.003	516.300	•
5/16	7.938	5.938	4	101.6 +1.00	0.008	0.003	516.400	•
3/8	9.525	7.525	2	50.8 +0.70	0.005	0.003	38.200	•
3/8	9.525	7.525	2 1/2	63.5 +0.80	0.006	0.003	38.212	•
3/8	9.525	7.525	3	76.2 +0.90	0.008	0.003	38.300	•
3/8	9.525	7.525	3 1/4	82.6 +0.90	0.008	0.003	38.314	•
3/8	9.525	7.525	3 1/2	88.9 +1.00	0.008	0.003	38.312	•
3/8	9.525	7.525	4	101.6 +1.00	0.008	0.003	38.400	•
3/8	9.525	7.525	6	152.4 +1.60	0.010	0.003	38.600	•
7/16	11.113	9.113	2 1/2	63.5 +0.80	0.006	0.003	716.212	•
7/16	11.113	9.113	2 3/4	69.9 +0.80	0.007	0.003	716.234	•
7/16	11.113	9.113	4	101.6 +1.00	0.008	0.003	716.400	•
7/16	11.113	9.113	4 1/2	114.3 +1.10	0.010	0.003	716.412	•
1/2	12.700	10.700	2 1/2	63.5 +0.80	0.006	0.003	12.212	•
1/2	12.700	10.700	3	76.2 +0.90	0.008	0.003	12.300	•
1/2	12.700	10.700	3 1/2	88.9 +1.00	0.008	0.003	12.312	•
1/2	12.700	10.700	4	101.6 +1.00	0.008	0.003	12.400	•
1/2	12.700	10.700	4 1/2	114.3 +1.10	0.010	0.003	12.412	•
1/2	12.700	10.700	5	127.0 +1.30	0.010	0.003	12.500	•
1/2	12.700	10.700	6	152.4 +1.60	0.010	0.003	12.600	•
9/16	14.288	12.288	3	76.2 +0.90	0.008	0.003	916.300	•



	D h6 inches/mm	d mm	L inches/mm		x mm	y mm	Code	DK400N 7541
1/16	14.288	12.288	3 1/2	88.9 +1.00	0.008	0.003	916.312	•
1/8	15.875	12.875	3	76.2 +0.90	0.008	0.004	58.300	•
3/16	15.875	12.875	3 1/2	88.9 +1.00	0.008	0.004	58.312	•
1/4	15.875	12.875	4	101.6 +1.00	0.008	0.004	58.400	•
5/16	15.875	12.875	5	127.0 +1.30	0.010	0.004	58.500	•
3/8	15.875	12.875	6	152.4 +1.60	0.010	0.004	58.600	•
7/16	19.050	16.050	3	76.2 +0.90	0.008	0.004	34.300	•
1/2	19.050	16.050	4	101.6 +1.00	0.008	0.004	34.400	•
5/8	19.050	16.050	5	127.0 +1.30	0.010	0.004	34.500	•
3/4	19.050	16.050	6	152.4 +1.60	0.010	0.004	34.600	•
7/8	22.225	19.225	4	101.6 +1.00	0.008	0.004	78.400	•
1	25.400	22.400	3	76.2 +0.90	0.008	0.005	1.300	•
1	25.400	22.400	4	101.6 +1.00	0.008	0.005	1.400	•
1	25.400	22.400	5	127.0 +1.30	0.010	0.005	1.500	•
1	25.400	22.400	6	152.4 +1.60	0.010	0.005	1.600	•
1	25.400	22.400	7	177.8 +2.10	0.010	0.005	1.700	•
1 1/4	31.750	28.750	6	152.4 +1.60	0.010	0.005	114.600	•
1 1/4	31.750	28.750	7 1/2	190.5 +2.50	0.010	0.005	114.712	•

寸法 | Dimensioning

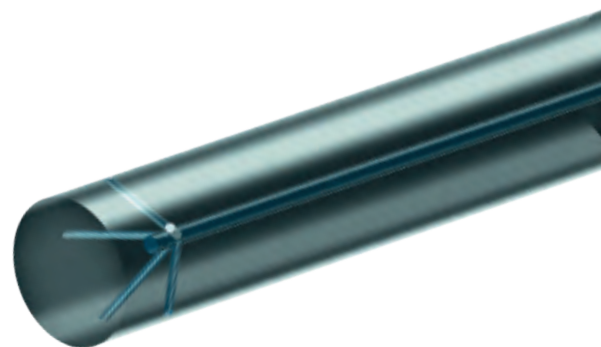


エンドミル用研磨材 径公差 h6

■ 中心給油・外径吐出オイルホール付き、片側面取り

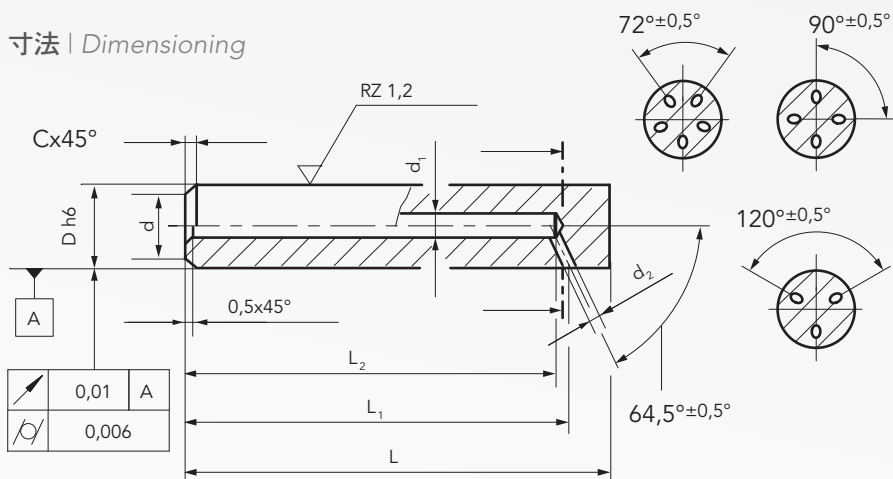
Milling cutter blanks, ground to tolerance h6

■ with axial coolant duct, lat. exits, chamfered one end



D h6	L	d	d ₁	d ₂	L ₁	L ₂	Code	DK460UF		
								7923 3 exits	7924 4 exits	7925 5 exits
6.0	58.0 +0.80	5.0	1.75	1.0	55.0	54.6	6.058	•	•	
6.0	76.5 +0.90	5.0	1.75	1.0	73.0	72.6	6.076	•	•	
8.0	64.2 +0.80	6.0	1.75	1.2	60.0	59.1	8.064	•	•	
8.0	101.2 +1.00	6.0	1.75	1.2	97.0	96.1	8.101	•	•	•
10.0	67.2 +0.80	8.0	2.00	1.2	62.0	60.6	10.067		•	
10.0	73.2 +0.90	8.0	2.00	1.2	68.0	66.6	10.073	•	•	
10.0	101.2 +1.00	8.0	2.00	1.2	96.0	94.6	10.101	•	•	
12.0	74.2 +0.90	10.0	2.00	1.5	68.0	66.1	12.074		•	
12.0	84.2 +0.90	10.0	2.00	1.5	78.0	76.1	12.084	•	•	•
12.0	101.1 +1.00	10.0	2.00	1.5	95.0	93.1	12.101	•	•	•
14.0	84.2 +0.90	12.0	2.00	1.5	77.0	74.7	14.084	•	•	
14.0	101.2 +1.00	12.0	2.00	1.5	94.0	91.7	14.101	•	•	•
16.0	83.2 +0.90	13.0	4.00	1.5	75.0	72.2	16.083		•	•
16.0	93.2 +1.00	13.0	4.00	1.5	85.0	82.2	16.093	•	•	•
16.0	101.2 +1.00	13.0	4.00	1.5	93.0	90.2	16.101	•	•	•
18.0	93.0 +1.00	15.0	4.00	2.0	84.0	80.7	18.093	•	•	
18.0	102.0 +1.00	15.0	4.00	2.0	93.0	89.7	18.102	•	•	
18.0	151.3 +1.60	15.0	4.00	2.0	142.0	138.7	18.151	•	•	
20.0	93.2 +1.00	17.0	4.00	2.0	83.0	79.2	20.093	•	•	
20.0	105.0 +1.10	17.0	4.00	2.0	95.0	91.2	20.105	•	•	•
20.0	151.2 +1.60	17.0	4.00	2.0	141.0	137.2	20.151	•	•	•
25.0	122.0 +1.20	22.0	4.00	2.0	109.5	104.5	25.122	•	•	•
25.0	152.0 +1.60	22.0	4.00	2.0	139.5	134.5	25.152	•	•	•

寸法 | Dimensioning

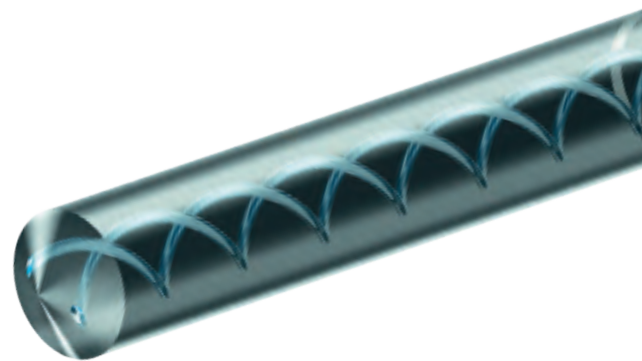


ドリル用研磨材 径公差 h6

■ 3 x D用 オイルホール付き 2穴30° ねじれ、片側面取り

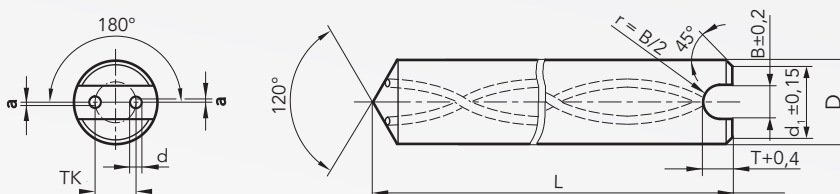
Drill blanks, ground to tolerance h6

■ 3 x D, with 2 coolant ducts, 30° helix, chamfered one end



D h6 mm	d1 mm	L mm	TK BC mm	B mm	T mm	d mm	a mm	30° ±0.5° mm	Code	3 x D DK460UF 7915
6.0	4.8	67.0 +1.50	2.60 -0.40	1.0	1.20	0.70 ±0.10	0.15	32.65 +0.67/-0.65	6.000	•
6.0	4.8	67.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.15	32.65 +0.67/-0.65	6.001	•
6.0	4.8	63.0 +1.50	1.50 -0.20	1.0	1.20	0.60 ±0.05	0.08	*20.40 +0.42/-0.40	6.002	•
6.0	4.8	67.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.10	**25.84 +0.54/-0.51	6.003	•
6.0	4.8	63.0 +1.50	1.75 -0.20	1.0	1.20	0.40 ±0.05	0.15	20.40 +0.42/-0.40	6.004	•
6.0	4.8	67.0 +1.50	2.10 -0.20	1.0	1.20	0.50 ±0.05	0.15	25.84 +0.54/-0.51	6.005	•
6.0	4.8	67.0 +1.50	2.60 -0.40	1.0	1.20	0.60 ±0.10	0.15	25.84 +0.54/-0.51	6.006	•
8.0	6.8	80.5 +1.50	3.60 -0.60	1.5	1.75	1.25 ±0.15	0.15	43.53 +0.89/-0.86	8.000	•
10.0	8.8	90.5 +1.50	4.80 -0.80	2.0	1.90	1.40 ±0.15	0.20	54.41 +1.11/-1.08	10.000	•
12.0	10.5	104.0 +1.50	6.25 -0.80	2.0	2.05	1.55 ±0.15	0.30	65.30 +1.34/-1.30	12.000	•
12.0	10.5	77.0 +0.90	6.25 -0.80	2.0	2.05	1.55 ±0.15	0.30	65.30 +1.34/-1.30	12.001	•
14.0	12.5	109.0 +1.50	6.70 -0.80	2.5	2.40	1.90 ±0.20	0.37	76.18 +1.56/-1.51	14.000	•
16.0	14.5	117.5 +1.50	8.00 -0.80	2.5	2.60	2.10 ±0.25	0.40	87.06 +1.78/-1.73	16.000	•
18.0	16.5	125.5 +2.00	9.00 -0.80	3.0	2.80	2.30 ±0.25	0.50	97.95 +2.00/-1.94	18.000	•
20.0	18.5	134.0 +2.00	10.00 -1.00	3.0	3.00	2.50 ±0.30	0.50	108.83 +2.23/-2.16	20.000	•
25.0	23.0	150.0 +2.00	12.00 -1.00	3.0	3.00	2.50 ±0.30	0.50	136.03 +2.78/-2.70	25.000	•
25.0	23.0	157.7 +2.00	12.00 -1.00	3.0	3.00	2.50 ±0.30	0.50	136.03 +2.78/-2.70	25.001	•

寸法 | Dimensioning



ドリル用研磨材 径公差 h6

■ 5 x D用 オイルホール付き2穴30° ねじれ、片側面取り

Drill blanks, ground to tolerance h6

■ 5 x D, with 2 coolant ducts, 30° helix, chamfered one end

											5 x D	
D h6	d1	L	TK BC	B	T	d	a	30° ±0.5°		Code	DK460UF	
mm	mm	mm	mm	mm	mm	mm	mm	mm			7916	
6.0	4.8	83.0 +1.50	2.60 -0.40	1.0	1.20	0.70 ±0.10	0.15	32.65	+0.67/-0.65	6.000	•	
6.0	4.8	75.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.15	32.65	+0.67/-0.65	6.001	•	
6.0	4.8	67.0 +1.50	1.50 -0.20	1.0	1.20	0.60 ±0.05	0.08	*20.40	+0.42/-0.40	6.002	•	
6.0	4.8	75.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.10	**25.84	+0.54/-0.51	6.003	•	
6.0	4.8	67.0 +1.50	1.75 -0.20	1.0	1.20	0.40 ±0.05	0.15	20.40	+0.42/-0.40	6.004	•	
6.0	4.8	75.0 +1.50	2.10 -0.20	1.0	1.20	0.50 ±0.05	0.15	25.84	+0.54/-0.51	6.005	•	
6.0	4.8	75.0 +1.50	2.60 -0.40	1.0	1.20	0.60 ±0.10	0.15	25.84	+0.54/-0.51	6.006	•	
8.0	6.8	92.5 +1.50	3.60 -0.60	1.5	1.75	1.25 ±0.15	0.15	43.53	+0.89/-0.86	8.000	•	
10.0	8.8	104.5 +1.50	4.80 -0.80	2.0	1.90	1.40 ±0.15	0.20	54.41	+1.11/-1.08	10.000	•	
12.0	10.5	120.0 +2.00	6.25 -0.80	2.0	2.05	1.55 ±0.15	0.30	65.30	+1.34/-1.30	12.000	•	
14.0	12.5	126.0 +2.00	6.70 -0.80	2.5	2.40	1.90 ±0.20	0.37	76.18	+1.56/-1.51	14.000	•	
16.0	14.5	135.5 +2.00	8.00 -0.80	2.5	2.60	2.10 ±0.25	0.40	87.06	+1.78/-1.73	16.000	•	
18.0	16.5	145.5 +2.00	9.00 -0.80	3.0	2.80	2.30 ±0.25	0.50	97.95	+2.00/-1.94	18.000	•	
20.0	18.5	156.0 +2.00	10.00 -1.00	3.0	3.00	2.50 ±0.30	0.50	108.83	+2.23/-2.16	20.000	•	
25.0	23.0	169.0 +2.00	12.00 -1.00	3.0	3.00	2.50 ±0.30	0.50	136.03	+2.78/-2.70	25.000	•	
25.0	23.0	184.0 +2.00	12.00 -1.00	3.0	3.00	2.50 ±0.30	0.50	136.03	+2.78/-2.70	25.001	•	

*30° 仕上げ径 3.75 まで

**30° 仕上げ径 4.75 まで

*30° for finished diameter up to 3.75

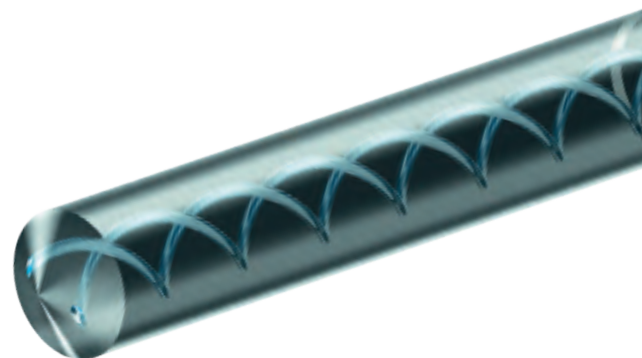
**30° for finished diameter up to 4.75

ドリル用研磨材 径公差 h6

■ 7 x D用 オイルホール付き 2穴30° ねじれ、片側面取り

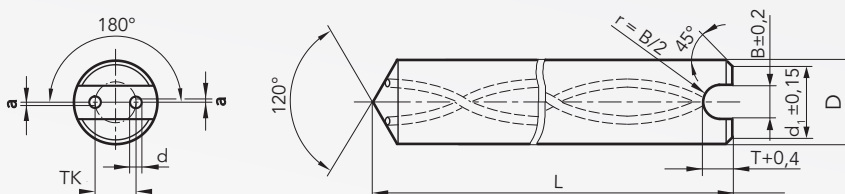
Drill blanks, ground to tolerance h6

■ 7 x D, with 2 coolant ducts, 30° helix, chamfered one end



D h6 mm	d1 mm	L mm	TK BC mm	B mm	T mm	d mm	a mm	30° ±0.5° mm	Code	7 x D DK460UF 7349
6.0	4.8	98.0 +1.50	2.60 -0.20	1.0	1.20	0.70 ±0.10	0.15	32.65 +0.54/-0.51	6.000	•
6.0	4.8	91.0 +1.50	2.60 -0.20	1.0	1.20	0.70 ±0.10	0.15	32.65 +0.54/-0.51	6.001	•
6.0	4.8	76.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.15	32.65 +0.54/-0.51	6.002	•
6.0	4.8	86.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.15	32.65 +0.54/-0.51	6.003	•
6.0	4.8	71.0 +1.50	1.50 -0.20	1.0	1.20	0.60 ±0.05	0.15	20.40 +0.42/-0.40	6.004	•
6.0	4.8	76.0 +1.50	1.50 -0.20	1.0	1.20	0.60 ±0.05	0.15	20.40 +0.42/-0.40	6.005	•
6.0	4.8	76.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.15	25.84 +0.42/-0.40	6.008	•
6.0	4.8	86.0 +1.50	2.00 -0.20	1.0	1.20	0.80 ±0.10	0.15	25.84 +0.42/-0.40	6.009	•
6.0	4.8	71.0 +1.50	1.75 -0.20	1.0	1.20	0.40 ±0.05	0.15	20.40 +0.42/-0.40	6.010	•
6.0	4.8	76.0 +1.50	1.75 -0.20	1.0	1.20	0.40 ±0.05	0.15	20.40 +0.42/-0.40	6.011	•
6.0	4.8	76.0 +1.50	2.10 -0.20	1.0	1.20	0.50 ±0.05	0.15	25.84 +0.42/-0.40	6.012	•
6.0	4.8	86.0 +1.50	2.60 -0.40	1.0	1.20	0.60 ±0.10	0.15	25.84 +0.42/-0.40	6.013	•
8.0	6.8	107.5 +1.50	3.60 -0.40	1.5	1.75	1.25 ±0.15	0.15	43.53 +0.89/-0.86	8.000	•
8.0	6.8	117.5 +1.50	3.60 -0.40	1.5	1.75	1.25 ±0.15	0.15	43.53 +0.89/-0.86	8.001	•
10.0	8.8	132.5 +1.50	4.80 -0.60	2.0	1.90	1.40 ±0.15	0.20	54.41 +1.11/-1.08	10.000	•
10.0	8.8	140.5 +1.50	4.80 -0.60	2.0	1.90	1.40 ±0.15	0.20	54.41 +1.11/-1.08	10.001	•
12.0	10.5	157.0 +2.00	6.25 -0.80	2.0	2.05	1.55 ±0.15	0.30	65.30 +1.34/-1.30	12.000	•
12.0	10.5	165.0 +2.00	6.25 -0.80	2.0	2.05	1.55 ±0.15	0.30	65.30 +1.34/-1.30	12.001	•
14.0	12.5	184.0 +2.00	6.70 -0.80	2.5	2.40	1.90 ±0.20	0.37	76.18 +1.56/-1.51	14.000	•
16.0	14.5	206.5 +2.00	8.00 -0.80	2.5	2.60	2.10 ±0.25	0.40	87.06 +1.78/-1.73	16.000	•
18.0	16.5	225.5 +2.00	9.00 -0.80	3.0	2.80	2.30 ±0.25	0.50	97.95 +2.00/-1.94	18.000	•
20.0	18.5	247.0 +2.00	10.00 -1.00	3.0	3.00	2.50 ±0.30	0.50	108.83 +2.23/-2.16	20.000	•

寸法 | Dimensioning



ご要望に応じて

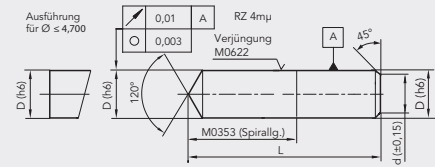
On request

ドリル用研磨材 径公差 h6 Drill blanks, ground to tolerance h6

DIN 338
DIN 338

DK460UF
7501

D h6: \varnothing 2,00–12,00 mm (0,1 mmとび)及びタップ下穴サイズ
D h6: \varnothing 2.00–12.00 mm in increments of 0.1 mm plus tapping hole size diameters



ドリル用研磨材 径公差 h6 Drill blanks, ground to tolerance h6

DIN 1897/6539
DIN 1897/6539

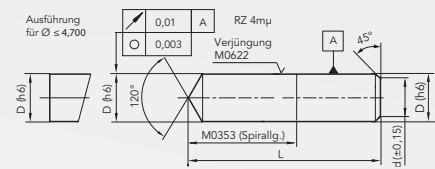
DK460UF
7502

DK460UF
7542

DK460UF
7547

DK460UF
7356

D h6: \varnothing 2,00–12,00 mm (0,1 mmとび)及びタップ下穴サイズ
D h6: \varnothing 2.00–12.00 mm in increments of 0.1 mm plus tapping hole size diameters

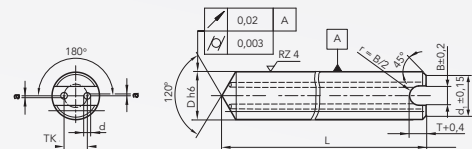


ドリル用研磨材 径公差 h6/h8 Drill blanks, ground to tolerance h6/h8

パラレル 2穴ストレート、制限されたピッチ円径
with 2 parallel coolant ducts, restricted pitch circle

DK460UF
7539 4xD

DK460UF
7546 10xD





ドリル用研磨材 径公差 h6/h8

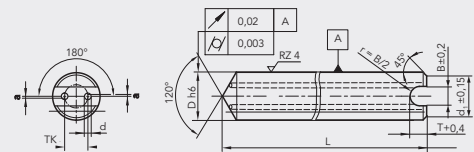
Drill blanks, ground to tolerance h6/h8

パラレル 2穴ストレート、標準ピッチ円径
with 2 parallel coolant ducts, standard pitch circle

DK460UF
7537 4xD

DK460UF
7551 7xD

DK460UF
7538 10xD



ドリル用研磨材 径公差 h6

Drill blanks, ground to tolerance h6

2穴 30° ねじれ、片側面取り
with 2 coolant ducts, chamfered one end, 30° helix

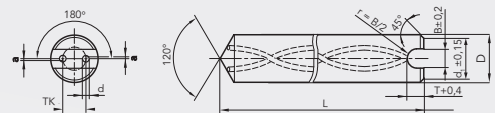
DK460UF
7943 15xD

DK460UF
7579 20xD

DK460UF
7580 25xD

DK460UF
7581 30xD

DK460UF
7598 40xD



ドリル用研磨材 径公差 h6

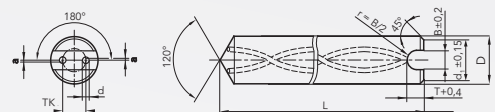
Drill blanks, ground to tolerance h6

2穴 40° ねじれ、片側面取り
with 2 coolant ducts, chamfered one end, 40° helix

DK460UF
7567 3xD

DK460UF
7568 5xD

DK460UF
7569 7xD



特殊品対応

Our customised parts

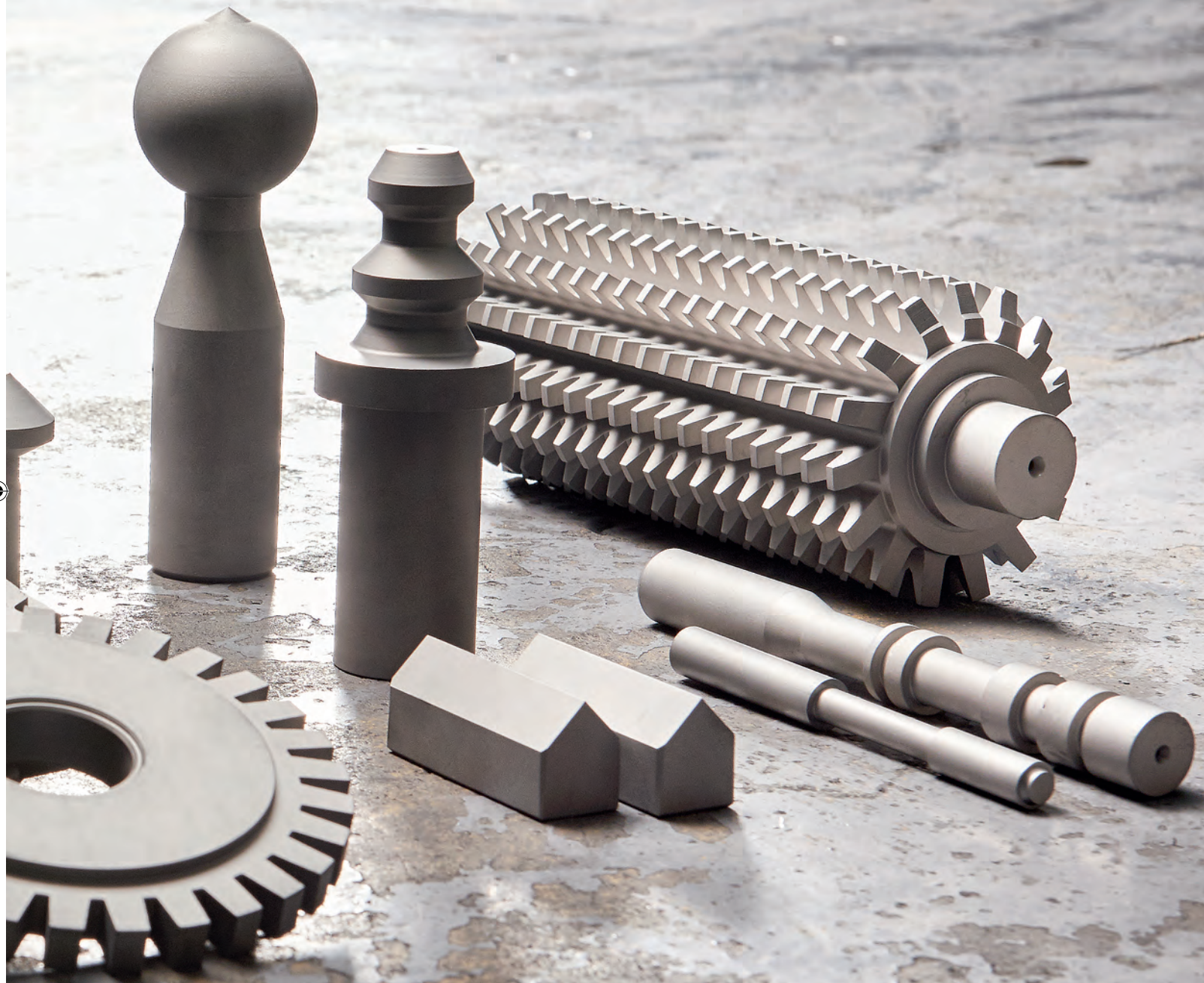
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BERLIN CARBIDE
GERMAN CARBIDE



品質保証

Certified quality

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We are convinced that quality starts with the raw material. That is why we place the highest demands on our suppliers. From powder preparation to grinding of sintered carbide products, we ensure a high-quality production of your products. Our quality management system certified according to DIN ISO 9001 and our contribution to environmental protection by certification to DIN EN ISO 50001 lead the way to a future-oriented and sustainable production.

仕入原料の品質管理

Incoming quality control

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We want to offer you the best quality – right from the start. Therefore our raw materials are sourced from reputable manufacturers. As soon as the goods are received, our laboratory checks the particle size distribution, the specific surface and the carbon balance of the powders.

冶金品質管理

Metallurgical quality control

製造工程全体における磁気的および物理的特性の適切な設定、ならびにさまざまな超硬材種の微細構造のスクリーニングによって、最終製品の品質が保証されます。

The proper setting of the magnetic and physical characteristics as well as the screening of the microstructure of the different carbide grades during the entire production process ensures high quality of our end products.



幾何学的品質管理 Geometrical quality control

幾何学的品質管理の一環として、さまざまな幾何学的数値（外径、ピッチ、オイルホール径、ピッチオフセットなど）を管理するため、革新的な測定技術と高解像度カメラシステムが使用されます。

As part of geometric quality assurance, innovative measurement techniques and high-resolution camera systems are used to control the various geometric values (for example, outer diameter, pitch, cooling channel diameter, pitch offset, etc.).

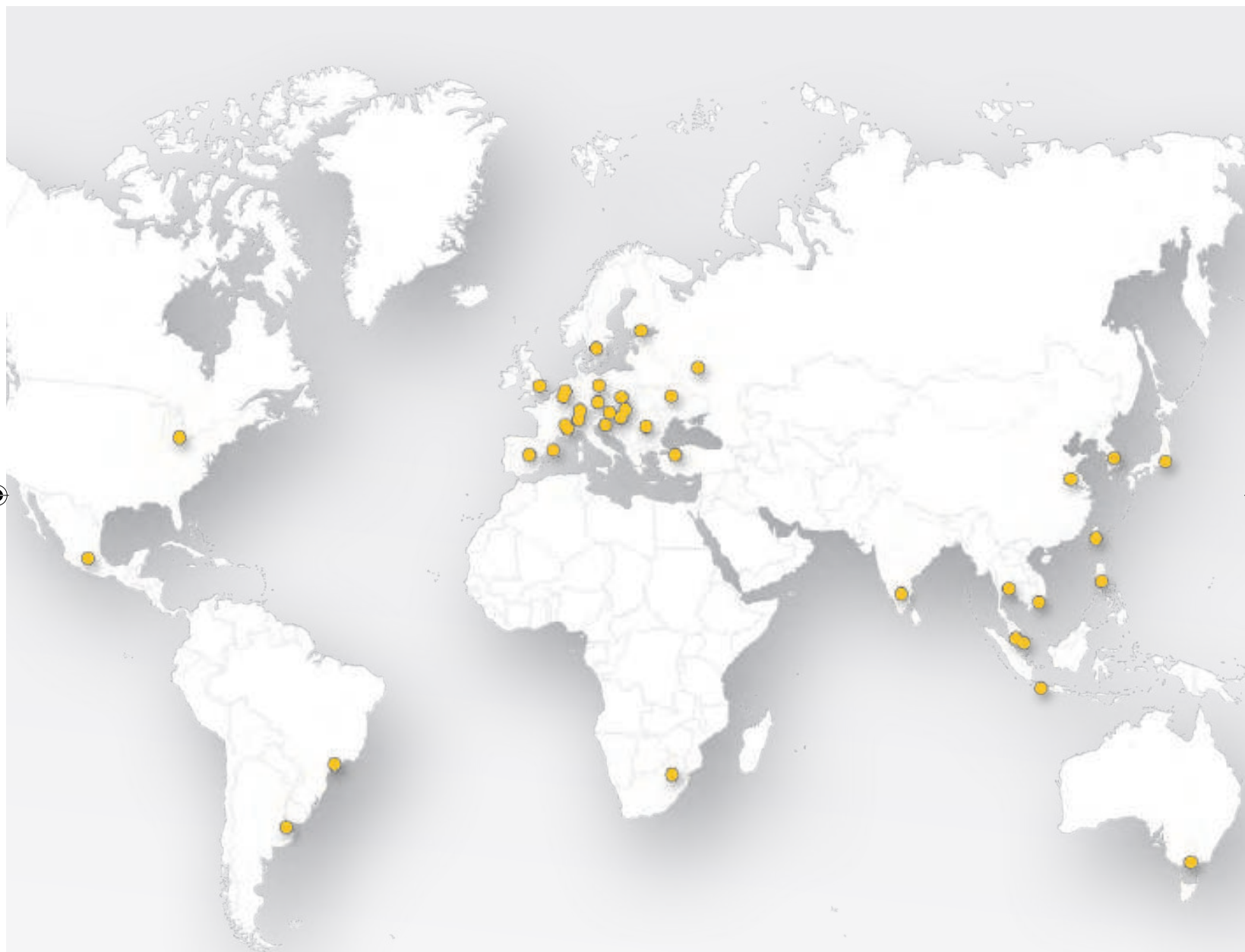






グローバルセールスネットワーク

Represented worldwide



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