UF09 · UF10 · UF12 UF1 · UF10N · K20



# **Solid Carbide Rods for Machining CFRP Parts**

# 硬质合金棒料产品在碳纤维增强复 合材料的加工应用

IMC Dalian has proven success in the innovation of aerospace applications in China and the around the globe. The UF09 grade, 9% Co and ultra-fine WC 0.5µ, is a great achievement by IMCD in the manufacturing of CFRP parts and components for the aerospace industry.

IMC大连在中国及全球航空航天领域应用的 创新已取得巨大的成功。其中钴含量9%, 超细微碳化钨颗粒(0.5μ)的UF09牌 号在航空航天工业领域碳纤维增强复合 材料及其组件的加工表现尤为突出。



- Very high-wear resistance
- **Excellent deformation resistance**
- HSM high speed machining
- Excellent for extreme abrasive material
- Hardened steel, plastics, fiber reinforced material, CFRP, CFC, aluminum alloys



- 超强的耐磨损性
- 出色的抗变形性
- 高切削速度的加工应用
- 难加工材料的适应性
- 可用于加工淬火钢,塑料,纤维加强材料, 碳纤维加强材料, 石墨及铝合金



# Solid Carbide Rods for All Applications Types

#### 硬质合金棒料产品的全领域应用

The combination of the WC grain size, cobalt percentage and other materials has enabled IMCD to offer premium carbide powder grades that provide the customer with the highest performance, utmost quality and reliable cutting results.

By using premium quality raw materials, IMCD offers a high quality carbide rod that is available in different sizes, shapes and lengths.

通过碳化钨粉末,钴及其它材料结合 而成的优质硬质合金粉末UF10牌号, 使得IMC大连为客户拥有超强的加工稳 定性和可靠的切削效果提供保障。 基于高质量保证的原材料,IMC大 连可为客户提供不同尺寸,形状的 高质量硬质合金棒料产品。



- UF10 (10% Co & WC0.8) is a universal grade covering most applications
- High toughness and wear resistance
- Suitable for medium cutting speeds
- UF10 grade for stainless steel and nickel-based alloys, titanium alloys and cast iron

- UF10牌号(10%钴和0.8µ亚细微碳化钨颗粒)
  可广泛应用于几乎所有金属切削领域
- 高韧性及耐磨性
- 适合中速加工
- 可用于加工不锈钢,镍基合金,钛合金及铸铁

# First Class Solid Carbide Rods for Leading Industries 高品质硬质合金棒料应用领域



医疗行业



热交换产品



模具工业



铁路行业



机床



重工业



风电



微小零部件



航空航天



轴承行业



汽车行业



电力工业



# Solid Carbide Rods for Machining Stainless Steel Mobile Phone Parts

#### 硬质合金棒料产品在手机不锈钢零 部件的加工应用

With increasing growth in the smartphone industry in the world and specifically in China today, IMCD's innovative UF12 ultra-fine grade, for stainless steel parts with WC 0.5µ and 12% Co, is a proven leader in the industry. These unique properties and applications deliver maximum performance to customers.

随着智能手机市场份额在中国及全球范围内不断增长,IMC大连创新的钴含量12%超细碳化钨颗粒(0.5µ) UF12牌号硬质合金棒料产品,在手机不锈钢零件的加工应用中处于领先地位,为客户提供了最佳的生产实现。



- Ultra-fine grain 0.5WC with 12% cobalt
- Very high toughness and high-wear resistance
- High cutting speeds and medium feeds
- For use on unalloyed engineering steel, stainless steel, nickel-based alloys and titanium alloys
- 0.5µ超细碳化钨颗粒, 钴含量12%
- 超高韧性及耐磨性
- 高速切削,中速进给
- 广泛应用于钢及不锈钢 产品,镍基合金及钛合金。



# UF10N

# Solid Carbide Rods for All ISO ranges End Mills

## 硬质合金棒料产品在ISO铣刀的应用

An ultra fine WC 0.5µ with 10% Co. UF10N grade covering all ISO ranges, leading high wear resistance and excellent deformation. its a grade with high productivity.

0.5 μ 超细微碳化钨颗粒和10%钴含量的UF10N牌号几乎涵盖了所有ISO铣刀的应用, 其极高的耐磨性和抗变形性 给客户带来超乎寻常的生产效率。

#### **CARBIDE RODS**

- High metal removal rate, reduce machining time
- Eliminates vibration & Chatter dampening, longer tool life
- Reinforced cutting forces, excellent solution for low power machines
- Suitable for machining exotic materials
- Perform roughing and finishing operations at the same time
- Obtaining excellent surface finish while rough machining condition
- For use on wood and paper, titanium alloys, fibre reinforced materials, aluminum alloys

- 材料去除效率高,缩短加工时间
- 减小震动,增加刀具寿命
- 强大的切削力, 可以应用在低功率设备上
- 可应用于特殊材料的加工
- 粗精加工可同时完成
- 保证粗加工的高质量切削表面
- 可用于加工木材和纸, 钛合金, 纤维加强材料, 铝合金等



# Solid Carbide Rods for Conventional and Fast Reaming

#### 硬质合金棒料产品在传统及高速铰 刀的应用

IMCD Sub-micron UF1 grade with 6% Co applied in fast reaming & drilling with high accuracy and high productivity; very high wear resistance and best performance with inner coolant hole.

IMC大连的亚细微碳化钨颗粒和6%钴含量的UF1牌号为高速钻孔及铰孔提供高精度和高效率;其冷却孔产品能带来最佳耐磨性的加工表现。



- Durable (produced from submicron fine carbide grain)
- Suitable for low cutting speeds and feeds
- Coated for high cutting speeds
- For use on cast iron, chilled cast iron, plastic
- 良好的耐磨性
- 适用于低速切削及进给
- 涂层产品应用于高速切削
- 可用于加工铸铁,冷硬铸铁, 塑料制品等



# K20

## Solid Carbide Rods for Gun-Drill

## 硬质合金棒料产品在枪钻的应用

Along with the high request for deep hole making from customers, IMCD grade K20 with fine WC powder & 6% Co for Gun-drill supply best quality and accuracy hole making solution.

随着用户对深孔加工的要求越来越高,IMC大连细微碳化钨颗粒和6%钴含量的K20牌号高质量及高精度枪钻为深孔加工提供解决方案。



- High Drilling precision with Medium cutting speed drilling and reaming
- Excellent straightness and high concentricity of hole
- For use on gray cast iron, chilled cast iron, unalloyed steel



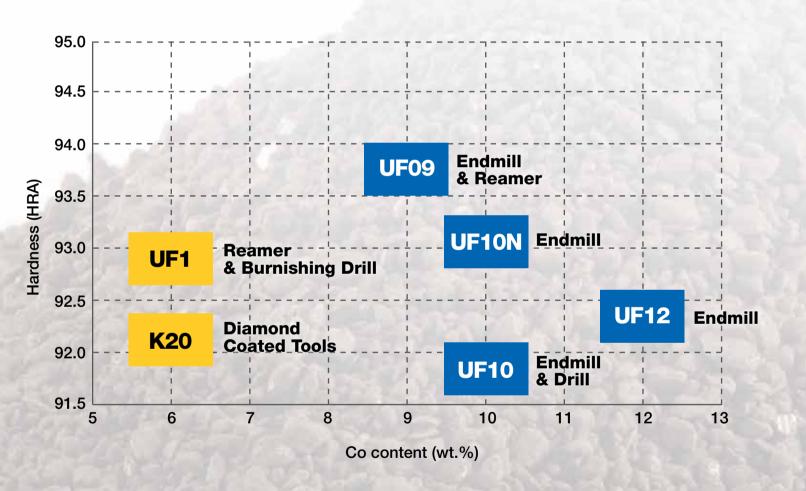
- 高精度及中等切削速度的钻削和铰削加工
- 完美的直线度及孔同心度
- 可用于加工灰铸铁,冷硬铸铁和非合金钢等



# Grades

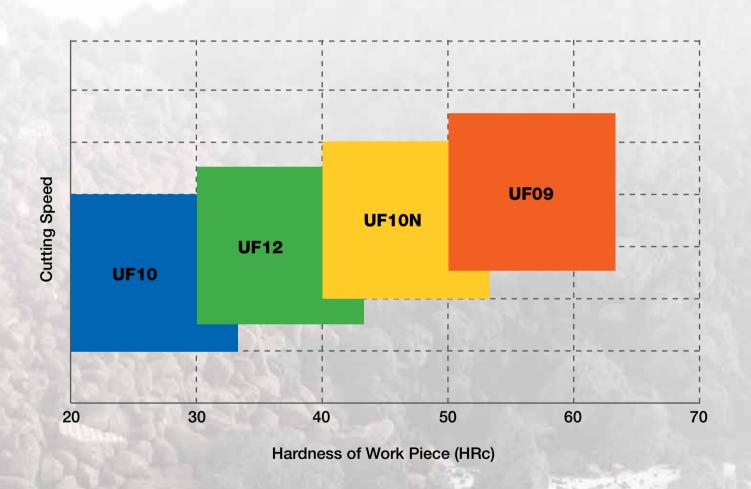
## **Map for Comparison of Grades**

#### 不同牌号对比图



# **Cutting Speed & Hardness ( HRc )**

### 切削速度与硬度(HRc)









IMC International Metalworking Engineering & Production (Dalian) Co Ltd No. 62 Tie Shan Zhong Road Dalian Jinzhou New District, 116600 China Tel: +86 (0)411 8796 3000/3013 Fax: +86 (0)411 8796 3188 CustomerService@imc-companies.com.cn

IMC国际金属切削(大连)有限公司

中国 大连 金州新区铁山中路62号 邮编: 116600

电话: +86 (0)411 8796 3000/3013 传真: +86 (0)411 8796 3188

邮箱: CustomerService@imc-companies.com.cn

网址: www.imc-carbide.com

