超微粒子超硬合金EF类

ULTRAFINE GRAIN CEMENTED CARBIDE - EF GRADE LINE UP EF01, EF05, EF10, EF20

超微粒子合金

高硬度・高抗弯强度以及锐利模具刀口之精密加工的实现。

Ultrafine grain cemented carbide

High hardness, high transverse rupture strength and sharp edge.

产品说明 Explanation	是广泛硬度（90~94HRA）的超微粒子超硬合金的系列。 通过高耐磨耗性实现了高寿命。 Ultrafine grain material grade with various hardness range (HRA 90 - 94) . Long life by high wear-resistance.
使用注意 Note	EF属于超微粒合金，具有高硬度和高抗弯强度，因此在使用和加工时，需注意冲击和放电加工中的损伤。 Ultrafine grain carbide such as EF have physically unresisting against impact or damage by EDM whereas high hardness and transverse rupture strength.
用途/实例 Applications	用于电子元件、粉末成型、树脂成型、高速冲压等模具 Mold for electronic component, powder compacting, resin forming, high speed press(Punch, Dies, Bending punch and Die), etc.

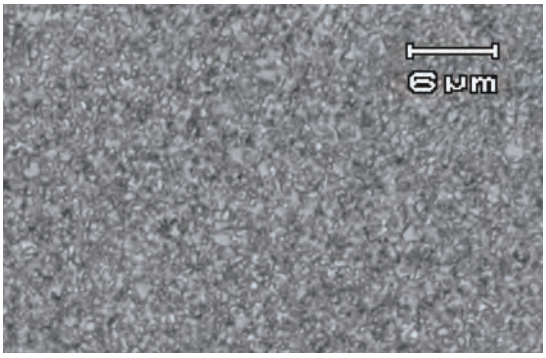
EF类物理性能
Physical property of EF grade

本公司产品代号 Our grade	密度 Density [×10³ kg/m³] {g/cm³}	硬度 Hardness		抗弯强度 TRS [GPa]
		HRA	HV	
EF01	14.5	(94.0) (*1)	2000	3.7
EF05	14.3	93.0	1900	3.7
EF10	14.0	92.0	1750	4.0
EF20	13.6	90.0	1480	4.0

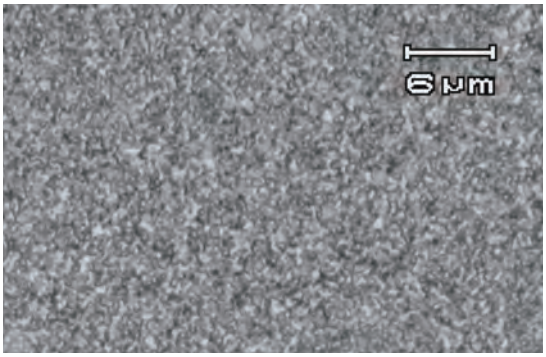
(代表值/ Typical figures)

备注：*1表示的是从HV硬度得出的换算值
Note *1. The number shows the reduced value from HV.

EF类组织照片
Micrographs of EF grade



EF01



EF10

金属显微镜（X1000）
By metallurgical microscope (×1000)

硬度与抗弯强度的关系
Relation between hardness and TRS