



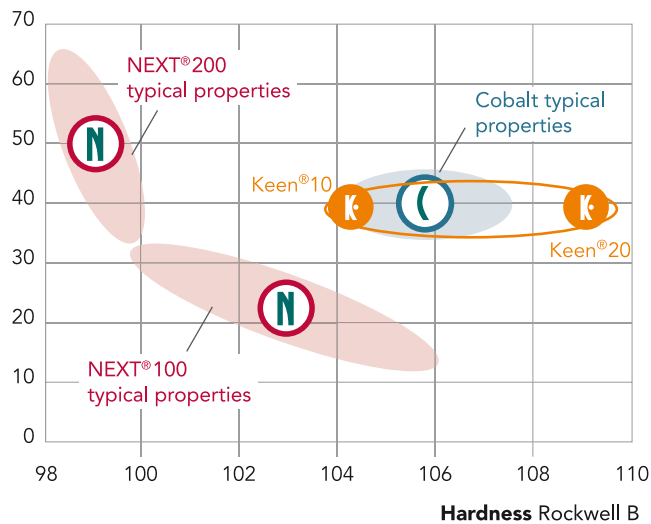
Keen® range

Keen® concept



- Following the 10 years success story of NEXT®, Eurotungstene has developed, through an ongoing process of innovation, a new pre-alloyed range of powders: Keen®. It aims at replacing cobalt bonds. Specially designed for abrasive and severe materials, Keen® is a new technical and economical alternative to traditional binders for the Diamond Tool industry.

Impact strength (J/cm²)
Measured Charpy (unnotched)



The Keen® range

• Pure Keen®

Keen®10
Keen®20

Keen® premixed

KX1180
KX1290
KX2940

Keen® granules

Keen®11
Keen®21
KX1181



Keen® for all construction applications

• For all tools

- Sawing
- Wire sawing
- Drilling
- Grinding
- Polishing

For all materials

- Cured concrete
- Asphalt
- Fresh concrete
- Pre-stressed concrete
- Very abrasive natural stones



pure**keen**

- In order to cover the still cobalt based applications, 2 new grades of pre-alloyed powders have been designed: Keen® 10 and Keen® 20.

Both powders are ductile and resistant against air oxidation.

Keen® 10

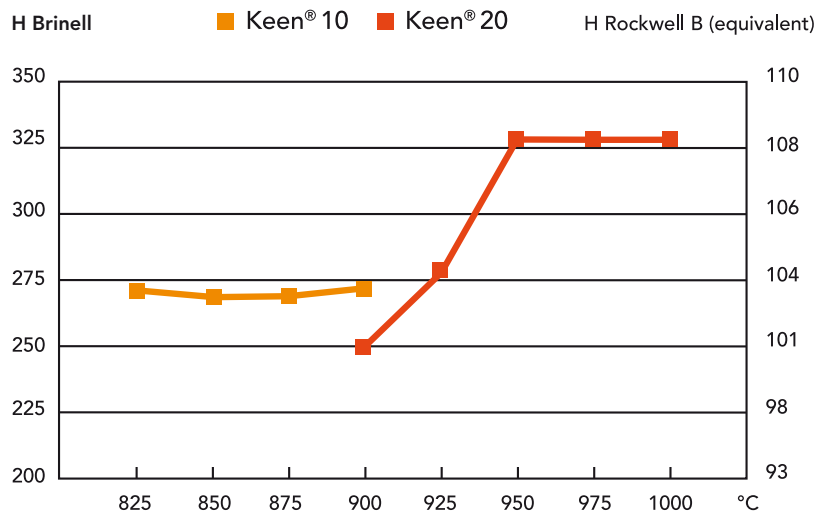
- Similar behaviour to standard extra-fine cobalt.
- Mainly dedicated to general construction applications.
- High ductility and standard cobalt hardness.

Keen® 20

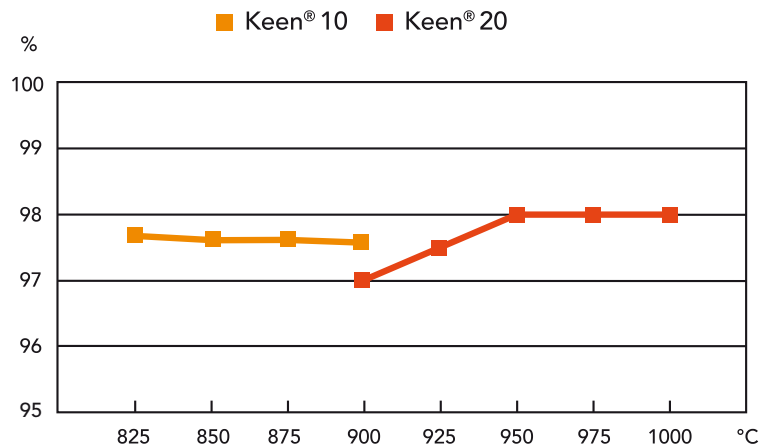
- Unique hardness and ductility combination.
- Dedicated to abrasive materials, high power machines.

Hardness as a function of sintering temperature

(hot pressing, measured by thermocouple)



Relative density



Sintering parameters

	Pure Keen®	
	Keen® 10	Keen® 20
Minimum sintering temperature	800 °C	900 °C
Recommended sintering temperature for most applications	850 °C (350 kg/cm ²)	950 °C (400 kg/cm ²)
Recommended holding time	5 mn	5 mn



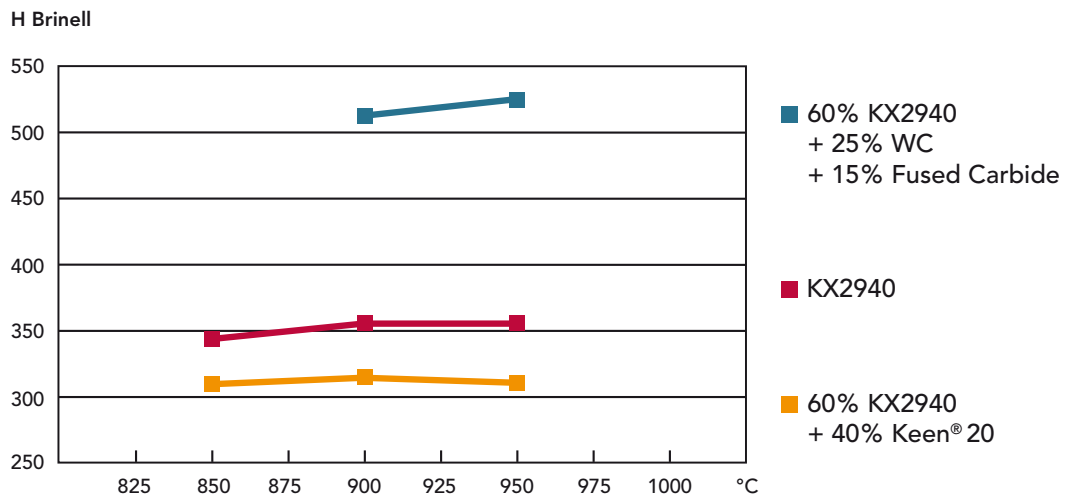
keenpremixed

- **KX1180** and **KX1290**, in the Keen®10 family, have been designed to improve tool performances.

	Formula	Applications
KX1180 Keen®10 + 20% WC	<ul style="list-style-type: none"> - Tungsten Carbide (3.0µm). - Recommended sintering temperature: 850°C. - Pressure: 350 kg/cm². 	<ul style="list-style-type: none"> - Abrasive granites (sawing and polishing). - More specifically for wire saws.
KX1290 Keen®10 + 10% Ni	<ul style="list-style-type: none"> - Nickel (2.5µm). - Recommended sintering temperature: 800°C. - Pressure: 350 kg/cm². 	<ul style="list-style-type: none"> - Cured concrete and standard construction materials. - More specifically for core drills.

- **KX2940**, based on Keen®20, represents the KX Cement solution with several advantages:
 - Unique combination of easy sintering and high carbides loading: up to 60% of WC + Fused Carbide.
 - Specially designed for very abrasive materials: asphalt, fresh concrete, abrasive stones...
 - Flexible solution: can be used pure or by adapting carbides contents.
 - Technical and economical advantages of the pre-alloyed technology.

Hardness as a function of sintering temperature
(hot pressing, measured by thermocouple)



	Formula	Applications
KX2940	<ul style="list-style-type: none"> - 30% Tungsten Carbide (3.0µm). - Recommended sintering temperature: 900°C. - Pressure: 350 kg/cm². - Relative density: 98.5%. 	<ul style="list-style-type: none"> - Cured concrete and standard construction materials (medium abrasivity).
KX2940 + 40% Keen®20	<ul style="list-style-type: none"> - 20% Tungsten Carbide (3.0µm). - Recommended sintering temperature: 900°C. - Pressure: 350 kg/cm². - Relative density: 98.2%. 	<ul style="list-style-type: none"> - Cured concrete and standard construction materials (low abrasivity).
KX2940 + 25% WC + 15% Fused Carbide	<ul style="list-style-type: none"> - 45% Tungsten Carbide (3.0µm) + 15% Fused Carbide. - Recommended sintering temperature: 950°C. - Pressure: 350 kg/cm². - Relative density: 98.9%. 	<ul style="list-style-type: none"> - Asphalt, fresh reinforced concrete (high abrasivity). - Polishing of granite (first grinding heads, calibrating rolls).

Suggested carbides adaptations



keen granules

Typical granule size:
63 – 450 µm

- **Main advantages of Keen® granules:**
 - Same properties as non-granulated Keen® powders (after sintering).
 - Improved flow properties.
 - Easy debinding.
 - Very low generation of dust while handling and processing.

Range of Keen® powders available in granulated versions are:

- Pure Keen®: Keen®11, Keen®21.
- Keen® premixed: KX1181.

Packing

- Metal drums containing polyethylene bag sealed under inert gas.
Consult us for available drum size.

@bout

- Download at www.eurotungstene.com (online catalogue):
 - Technical data sheets.
 - Material Safety Data Sheets.*Sintering certificates available upon request.*



be careful, it's sharp !

