

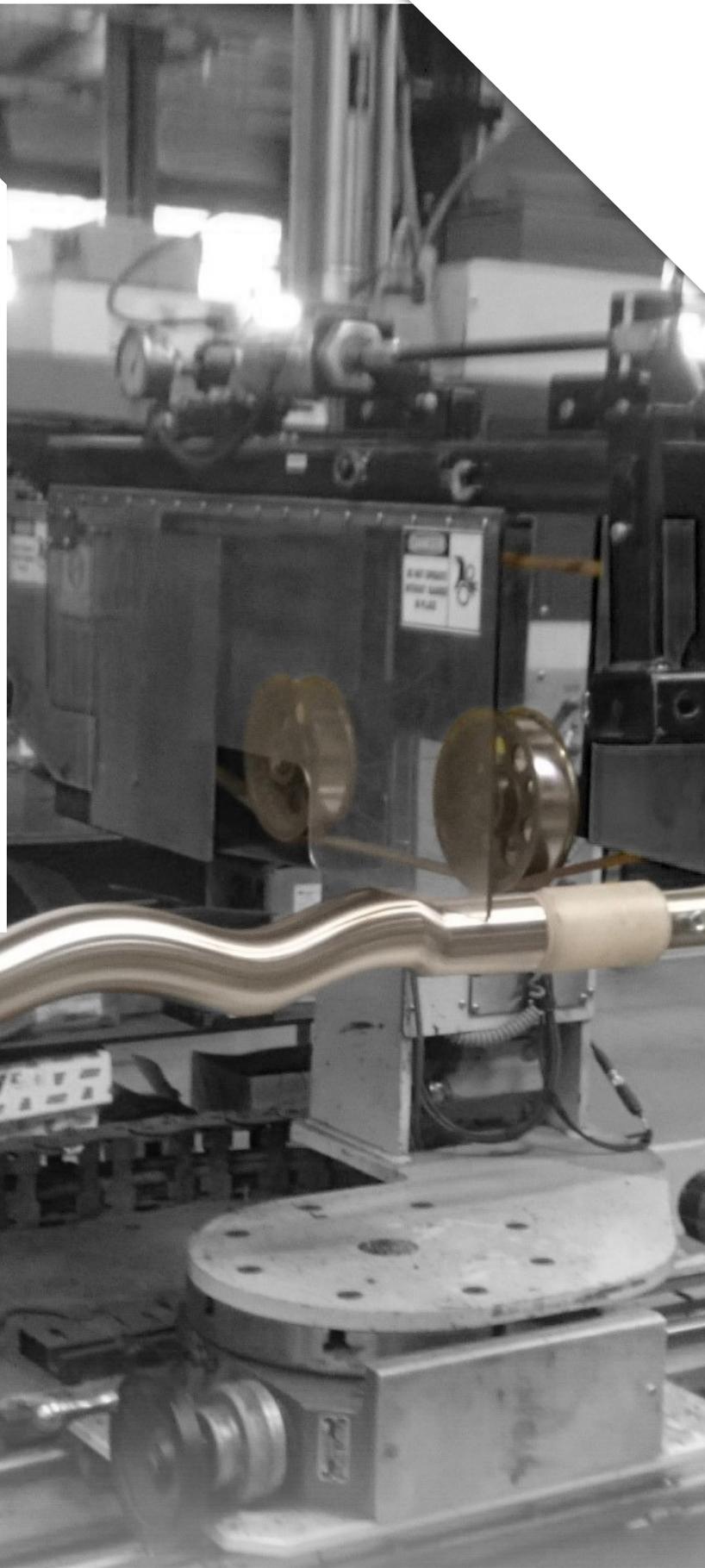
MUD ROTOR FINISHING

FOLLOW THE SHAPE TO REACH THE VALLEY

Flexible diamond tools for hard-coated
complex shapes

These engineered flexible diamond belts are the most efficient tools to grind and polish hard coatings on flat, concave and complex 3D shapes.

KGS DIAMOND TOOLS for hard to grind coated geometries offer a perfect balance between cut-rate, flexibility, strength, surface finish and high productivity.



Product overview

INDUSTRY

Oil and gas industry

MAIN APPLICATIONS

The market for thermal spray coatings and other advanced materials has taken a strong trend upwards. Special, very hard, coatings are applied for resurfacing metal parts to minimize the effects of mechanical wear extending the "material life". Examples are tungsten carbide coatings for corrosive low-temperature wear and nickel chromium carbides for high temperature wear (1000° C). Carbide coatings of cobalt chrome have over 4-6 times the abrasive wear. Wire flame, powder and plasma arc spraying are examples of thermal spray wear coating methods, next to the wellknown HVOF (High Velocity Oxygen Fuel Spraying) which method creates micro structure densities closest to that of wrought materials. All these coatings are very hard to grind and often applied to complex 3D shapes which make it a challenge to realise the required surface finish during the grinding process while keeping up productivity.

Mud rotors

The high end manufacturers of down hole mud rotors in the oil and gas industry are using KGS diamond belts to finish and blend the tungsten carbide coating. A clear choice which increases productivity, lifetime, the surface finish and thus the performance of the rotors. Most applications need belts to work dry. KGS offers enhanced joint technology, the belt joint can withstand the maximum pressure under dry working circumstances.



TYPE OF GRINDING MACHINES

Several set-ups are possible to reach the required finish. Stationary belt grinders provide a consistent finish, manual belt grinders allow to finish the more difficult to reach areas. The belts can be used with and without coolant. Use with coolant gives a better lifespan. Finishes up to high gloss ($R_a < 0.05$) are possible with the KGS Diamond belts.

PRODUCT OFFERING

KGS Flexis - These belts have a dot pattern, metal bond design, that ensures a very strong, precise diamond grain adhesion which delivers long-lasting durability, high cut-rate and consistent grinding results. The flexible backer supports the diamond mineral to respond to surface imperfections and contoured shapes, with continuous high cut-rate and keeping up productivity. The open dot pattern allows the removal of swarf, reducing loading, providing longer lifetime. KGS Flexis belts perform at best when used wet.

KGS Swiflex SDA - These belts have a flexible backer with thin structured resin bond diamond layer. The feel and touch of this product is very similar to coated abrasives. KGS Swiflex SDA can be used dry and wet. The flexible backer, type FSC, has a high flexibility to follow adequately contoured shapes

Product	Pattern	Backer	Flexibility	Stretch	Grit availability	Wet/Dry	Joint type
		Backing type					
Flexis Belts	Flexis 18	FSB - Thin highly flexible JF-weight cotton, waterproof	High	Medium	120,200,400,800 and 1500	wet or mist of water	FAB
Flexis Belts	Flexis 18	BPG - Flexible XF-weight polyester, waterproof	Medium	Low	120,200,400,800 and 1500	wet or mist of water	SF
Swiflex SDA Belts	SDA 1	FSC* - Thin very flexible F-weight cotton backing	High	High	60,120,200,400,800,1500 and 3000	dry or mist of water	FAB

* FSC backer is not waterproof, recommended for dry use

Dimensions	Flexis®		Swiflex SDA®	
	min	max	min	max
Width	8	300	8	300
Length	305	5000	305	5000
Colour	MESH 120	FEPA 1500	MESH 60	FEPA 3000