DIAMOND STRIPS

FINISHING / POLISHING

Super finishing

INDUSTRY
Pulp, paper, printing, hot rolling mills, oil, gas, mining, drilling, water engineering, earthmoving equipment.

MAIN APPLICATIONS
The actual goal through the super finishing operation is to achieve a surface that is as smooth as possible, so that the following advantages can be achieved: wear resistance, frictional resistance, fouling resistance and fatigue resistance.

Superfinishing systems are commonly used for optimising surfaces of rolls and other cylindrical parts. Long super-abrasive strips (with tails) are used for polishing and finishing hard brittle materials such as thermal sprayed coatings like HVOF sprayed carbides and ceramics. KGS flexible diamond tools are used on super-finishing machines for roll finishing of very hard materials like tungsten carbide, ceramics, thermal spray, epoxy and special alloys. This process in mainly used for precision engineering applications, ensuring improved operations and a longer product life. Your future benefits are: High tolerance of material, Less maintanance, Less replacement costs / investments. This system provides predictable, consistent (over the entire surface) and repeatable finishes. It improves the surface structure which can easily be compared to levels reached by honing or lapping.

Another important advantage is the ability to achieve the desired surface texture. From a highly reflective finish and low Ra value, to a specific surface roughness for friction grip and/or ink, water or oil retention. During the constant use of these rolls, they tend to lose this surface roughness and become "polished" over time. In this way rolls can be refurbished many times before fully being stripped and recoated. Also, another advantage is the removal of chatter marks, feed marks and other imperfections left by (previous) grinding operations.

Superfinishing tape has a speed controlled slow movement over a a rubber contact roller under pressure. This contact roller also has an oscillating movement. When the workpiece is rotating in the opposite direction, the superfinishing machine traverses along the workpiece; these combined motions create a cross-hatch pattern with a high percentage of plateaus and some grooves. Giving the desired surface finish and cylindricity.

TYPE OF GRINDING MACHINES
Superfinishing machines from OEM's like Loeser, GEM, Dynabrade, offered for installationon existing lathes or as a complete finishing line.

PRODUCT OFFERING
Flexible diamond strips - For these applications we recommend KGS Telum – strong interlocking arrow pattern and KGSFlexis® – dot pattern. These long strips – also known as MO-strips - are available in various widths including 50mm, 75mm, 100mm, 150mm and 200mm. Popular lengths are 3.200/1.200mm, 4.000/2.000mm, 6.000/4.000mm, 7.000/5.000mm, 12.000/10.000mm. The strips have 1.000mm tails for lead-in and lead-out and are supplied on a 75mm keyed plastic core. Flexible diamond tools perform at best when used with coolant.

| Product | Pattern | Backer | | | Grit availability | Wet/Dry | Key core |
		Backing type	Flexibility	Stretch			
Telum® Strips	Telum®	BYW - Strong XY polyester, waterproof	Medium	Low	60 120 200 400 800 1500	Wet	Yes
Flexis® Strips	Flexis®	BYW - Strong XY polyester, waterproof	Medium	Low	60 120 200 400 800 1500	Wet	Yes

Example - On a HVOF sprayed WCCo coating with a start finish Ra 0.6, superfinishstrip Ye-400 can achieve Ra 0.2

| Dimensions (mm) | Telum® | | Flexis® | |
	min	max	min	max
Width	50	200	50	200
Length	1200	10000	1200	10000