

Achieve The Unexpected

**CERAMIC
MEDIA FOR
SURFACE
TREATMENT**

Precision Shot
& Grit for Peening
& Blasting

RODECO COMPANY

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SAINT-GOBAIN ZIRPRO
Advanced Technology Solutions
Engineered To Meet Your Needs

Zirblast® Zirshot® Zirgrit®

MEET YOUR MOST DEMANDING NEEDS

Saint-Gobain ZirPro offers a choice of different types of ceramic media designed and engineered to cover your needs.

UNIQUE PROPERTIES

- Consistency of shape, hardness, size & smoothness
- Chemically inert
- High mechanical strength results in high wear, impact resistance, and low dust
- Outstanding elasticity provides a high impact energy
- Available in coarse, fine and very fine sizes



Zirblast B40



Zirshot Z300



Zirgrit T40

CUTTING EDGE PERFORMANCE

- No contamination or damage to treated parts
- Consistent results from your first part to the last
- Cost-effective compared to low cost media
- Outstanding fatigue results with ceramic beads (fig. 1,2,3)
- Smooth satin surface finish obtained with ceramic beads (fig. 4)
- Excellent surface etching with ceramic grits
- Enhanced performance in dry air blast, wet blast and wheel blast systems

BEHAVIOR DURING OPERATION

High impact strength versus glass beads and steel shot

	New product	After 5 cycles	10 cycles	40 cycles	60 cycles	
Ceramic beads						Ceramic bead characteristics remain consistent: no size change and no dust. Some of the broken parts are easily eliminated by the separation system.
Glass beads						
	New product	Used product				Ceramic beads
						Steel shot

After 10 cycles, glass beads generate a lot of dust which sticks to the beads and they become aggressive towards the equipment.

CETIM Tests, compressed air, pressure 4 bars, aluminum target

Steel shot wear and breaks according to its hardness, generating dust. Hardness, shape and size are not consistent during life time.

ZIRBLAST, ZIRSHOT, & ZIRGRIT - OPTIMUM TREATMENT ON VARIOUS MATERIALS

LIGHT ALLOYS | STAINLESS STEEL | HIGH-STRENGTH STEEL | NON-FERROUS ALLOYS | PLASTICS |

SHOT PEENING RESULTS

Figure 1 / Fatigue results on clutch springs

Material	Nitrided	Standard Spring Steel			
		Z210	Z150	Z210	Z210
Zirshot	Z425	Z210	Z150	Z210	Z210
Turbine (rpm)	2 500	2 000	1 100	1 500	1 500
Max. number of cycles (Thousands)	18 000	6 000	2 894	2 257	2 257
Ra (µm)	1.22	0.74	0.67	0.61	0.61



Figure 2 / Residual stress profiles and surface roughness on spring steel. With Zirshot, smooth surface and high level of compressive stress at the surface.

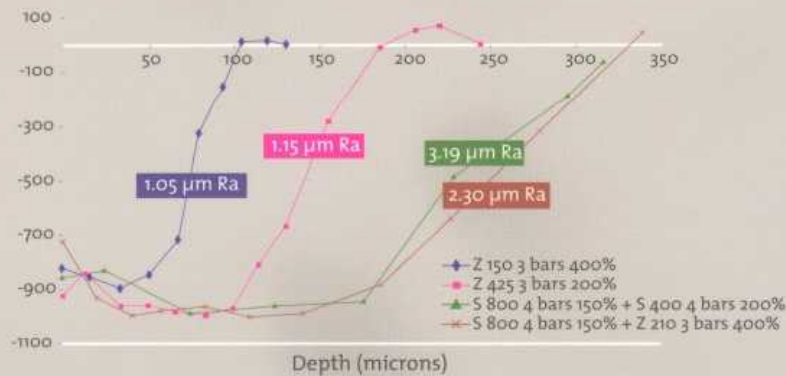
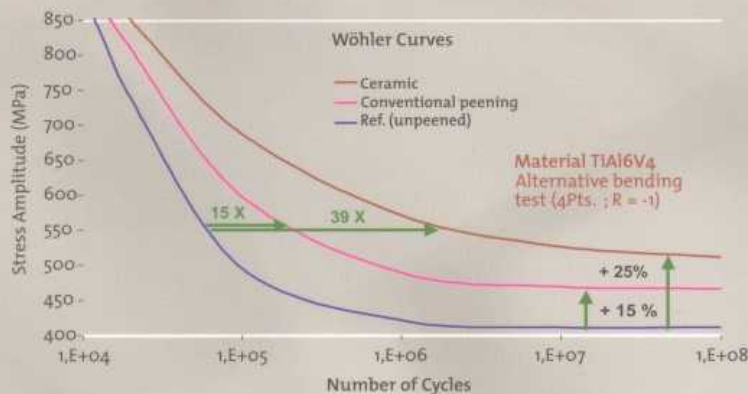


Figure 3 / H.E. Franz, A. Olbricht, ICSP'3, 1987: significant improvement of both life time (40 x) and fatigue strength (+25%).



**TEST
YOUR PART
AT OUR
FACILITY**

SHOT BLASTING APPEARANCE AND RESULTS

Figure 4 / Appearance before & after treatment and very low roughness on stainless steel



Zirblast® Zirshot® Zirgrit®

OPTIMIZE YOUR PRODUCTION PROCESS

Customers report that in addition to the technical benefit, Saint-Gobain ZirPro ceramic products significantly cut production costs

MEDIA CONSUMPTION REDUCED UP TO 90% VERSUS GLASS BEADS

Ceramic beads' and grains' unique mechanical properties imply:

- High wear resistance
- High recyclability

ENHANCED INDUSTRIAL PERFORMANCE

- Easy and fast implementation
- Higher productivity, minimal machinery adjustments, reduced cleaning and maintenance
- Faster part processing
- Lower energy bills: beads' low relative density and optimal effectiveness need lower velocities, resulting in lower energy bills.



LONGER SERVICE LIFE FOR YOUR EQUIPMENT

- Reduced wear on machinery and tools (media remain smooth and spherical)
- Equipment remains clean and in good condition

HEALTH, SAFETY AND ENVIRONMENT

- Low dust, and reduced waste
- Better work environment: improved air quality and noise reduction
- No free silica

SURPASS EXPECTATIONS WITH YOUR OWN BLAST EQUIPMENT

Zirblast® Zirshot® Zirgrit®

THE PROPER MEDIA FOR YOUR OWN APPLICATION

Our complete range of ceramic media — combined with our strong background of 25 years in surface treatment — covers many applications. There's certainly a Saint-Gobain ZirPro product that's just right for your application.

	ZIRBLAST	ZIRSHOT	ZIRGRIT T	ZIRGRIT C
	Beads for shot blasting	High grade beads for high-performance applications	High grade abrasive grit for wheel turbine applications	Standard abrasive grit for basic applications
Crystal structure	Ceramic: zirconia 68%, vitreous phase 32% (chemically inert)			Ceramic: alumina 47%, zirconia 32%, vitreous phase 21%
Characteristics	High elasticity (Young Modulus = 330 Gpa) Also performing in wheel turbine machines Durability, recycling ability			Sharp material, cutting & recycling ability
		Specific manufacturing process, pre-conditioned, narrower size range		
Available sizes (µm)	From 0-63 to 650-825	From 100-150 to 850-1180	From 0-63 to 650-825	From 0-125 to 1000-2000
Applications	Tool cleaning, surface finishing & preparation, descaling, deburring	Shot peening, peen forming, peen straightening	Stripping, surface etching, deburring	
Industries	Automotive, food industry, stainless steel construction, textile, glass...	Aerospace, automotive, nuclear, chemical equipment, & medical prosthesis industries	Automotive, food industry, stainless steel construction, textile, glass...	
Performances	Smooth surface		Current roughness Ra (µm): High strength steel: 2-2.5 Current steel: 3.5-4 Stainless steel: 2-4 Aluminium: 4-5	
	Stainless steel: Ra 0.37 µm	High strength steel: Ra 1.05 to 1.15 µm Titanium: Ra 0.4 to 0.8 µm High level of compressive stress at the surface		
Standards	NF L-06 824	NF L-06831 SAE J1830 AMS 2431 & 2431/7		



CUSTOMER SERVICE COMMITMENT

MORE PRODUCTS

Saint-Gobain ZirPro offers a complete line of ceramic media. So there's certainly the right product for your application.

MORE PERFORMANCE

ZirPro's ceramic media are engineered to meet your most specific requirements and deliver a cost-effective solution.

MORE CUSTOMER SUPPORT

With a focus on Customer Service, Saint-Gobain ZirPro also provides customers with:

- A test facility for process development: a technical support manager, a wheel blast and an air blast machine, and a gravity-feed suction blasting equipment are available for processing customers' requests.
- Customer support from initial trials to on site production implementation.
- Technical resources and R & D from an international industrial group.
- A worldwide sales network of ZirPro agents and distributors.
- Quality and environment commitment: ISO 9001 : 2000 and 14001 certified.




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