

Publication for the
Peening, Blasting,
Cleaning and
Vibratory Finishing
Industries

Separate Print

www.mfn.li

Vol. 11
November
Issue
Year 2010

Publication for the
Peening, Blasting,
Cleaning and
Vibratory Finishing
Industries



10th MFN Asian
Shot Peening Workshop &
Trade Show in Singapore
8th-11th of November, 2010
(see page 31)



MFN Flap Peening
Workshop in Germany
24th of March, 2011



Nadcap COLUMN:
Raising the Profile of
Quality November 11th marks
World Quality Day
page 56

www.mfn.li

Metal Finishing News

MFN

Distributed in North & South America, Europe and Asia

Japanese Ship Builder Moves Surface Preparation
And Protective Coating Application Inside To Reduce
Pollution And Save Costs (p. 16-18)



Vol. 11, November Issue, Year 2010

**Interview with Renaud Hancy, Market
Manager for Surface Treatment,
Saint-Gobain ZirPro**

New Trends For Ceramic Shot-Blasting


SAINT-GOBAIN
ZIRPRO

SEPR – Saint-Gobain ZirPro
B.P. 60025 - Bâtiment L, Route de Lyon
84131 Le Pontet Cedex, France
E-mail: zirpro@saint-gobain.com
www.zirpro.com
Tel. +33.490.32.7071
Fax +33.490.32.7061

New Trends For Ceramic Shot-Blasting

Interview with Renaud Hancy, Market Manager for Surface Treatment, Saint-Gobain ZirPro.

(?) MFN: Could you update us on the ZirPro organisation?

(!) R. H.: ZirPro is a business unit of Saint-Gobain Innovative Materials sector. We are a leading company in Zirconia based ceramic beads & powders, with over 30 years experience in applications for microgrinding and surface treatment. Our production sites are located in France and China, and we have sales offices in Americas, Europe and Asia.

New applications and trials for customer assistance are developed through our Blasting Application Shop located in Le Pontet, France (legal entity: SEPR). We put our technical expertise at the disposal of customers from different countries. We have recently started our 2nd Blasting Application Shop at Saint-Gobain's corporate Shanghai R&D Center.

(?) MFN: What are the products proposed by Saint-Gobain ZirPro for Surface Treatment?

(!) R. H.: ZirPro proposes four product families of engineered ceramic beads: Zirblast®, Microblast®, Zirshot® and Zirshot®Y.

Ceramic shot blasting applies to a wide range of substrates including hard steel, stainless steel, aluminium to light alloys, some polymers and ceramics. This technology provides specific benefits in terms of quality, process consistency and productivity, compared to other blasting media.

- Zirblast® is widely used for cleaning and surface preparation to-

gether with steel and aluminium tool cleaning applications.

- Microblast® fine beads are now a market reference for smooth surface finishing with a satinised appearance.
- Zirshot® and Zirshot®Y provide unique stress profiles in shot peening and peen forming applications, whilst remaining very gentle to the substrate surfaces.

Ceramic beads are proven to perform very effectively in air or wet pressure blasting and in turbine blasting processes. They are distinguished by their toughness, hardness and sphericity. They ensure excellent operational working conditions by nature of their low levels of dust emissions. Chemically inert, they do not contaminate the treated substrates.

To quote two industrial examples among many others:

- The life service of moulds for glass bottles is lengthened by at least +20% when their cleaning is processed by Zirblast® shot blasting.
- The fatigue lifetime of automotive springs is increased by +50% with the use of a Zirshot peening process.

(?) MFN: How do you commercialise your ceramic media?

(!) R. H.: ZirPro regional sales teams provide support in terms of logistics together with technical assistance for both our existing and new customer applications. This service aims at setting optimum shot blasting process conditions for ceramic beads with a



Renaud Hancy, Market Manager for Surface Treatment, Saint-Gobain ZirPro

periodical follow-up that we consider to be crucial for the overall satisfaction of our customers.

Ceramic media is mainly sold through a network of distributors in order to serve our diverse customer base and end users throughout the world. We closely cooperate with our distributors assisting them in developing their business and enlarging their experience in the applications of our products. This provides our distribution network with the knowledge and self sufficiency to promote ZirPro's portfolio of ceramic blasting media and enhance their relationships and reputation with our customers.

We are still looking for new channels of distribution to reach new markets.

(?) MFN: What are the technological trends for ceramic beads?

(!) R. H.: We have seen an increase of new projects for the testing of our

ceramic shot blasting. This new trend of innovation is driven by research to improve product performances and by requirements to reduce the ecological impacts of industrial processes.

In micro-finishing applications, our range of Microblast® ultrafine beads (average size 20 to 100µm) has been developed to address the new trends in design. Microblast® is now the media of reference for finishing the surfaces of consumer goods and industrial equipment made of stainless steel and aluminium materials.

We have completed the product range with new sizes to cover a variety of smooth satin aesthetics & surface textures.

The Automotive industry, another complex and expanding field of applications for ZirPro, is looking for economical solutions to reduce weight whilst enhancing the strength of mechanical parts.

Our new ceramic Zirshot®Y offers promising potential when it comes to improving shot peening processes. Zirshot®Y brings both the benefits of ceramic media with respect to the surface, and the ones of heavier steel shot with respect to the deeper layers of the substrate.

Zirshot®Y is remarkably efficient on high hardness steel alloys to provide new peening capabilities in one single step. It is particularly suited to high load transmission pinion gears, clutch discs, high performance springs and stabilizing bars...

Zirshot®Y is effectively compatible with wheel turbine shot blasting for automotive mass production.

(?) MFN: Could you tell us more about applications in turbine blasting?

(!) R. H.: The use of our ceramic beads has been for a long time established in single wheel dry blasting equipment for the cleaning of tools & cast parts. We also have some of the applications in multi-turbine dry blasting equipment where Zirblast and Zirshot bring outstanding results in terms of process

efficiency, performance of surface treatment and production cost savings.

Considering the intrinsic properties of ceramic media compared to more conventional blasting media, it is necessary to fine-tune the blasting process in order to make the most of the ceramic's potential benefits.

Once the blasting parameters and recycling flow rates are properly set up according to the specificities of ceramic beads, the blasting process then becomes very consistent since the working mix has an excellent homogeneity and stability in size, shape and hardness.

It is however true that certain layouts of multi-wheel turbine blasting equipment are less favourable to the lighter density of ceramic beads. This is where our technical teams generally advise the users and cooperation work is done with blasting machines OEMs to adjust the equipment designs in order to integrate the specifics of ceramic beads into such blasting processes.

It is also worthy to note that wet turbine blasting technologies with ceramic beads are much appreciated when cosmetic finishing is a must.

(?) MFN: How do you see the future of ceramic blasting media in Surface Treatment?

(!) R. H.: According to ongoing projects, we are confident that ceramic beads will extend their field of applications. We foresee significant potential in steel products descaling and aluminium profiles cleaning where shot blasting with



Ceramic beads for a wide range of blasting applications



Surface inspection after shot blasting

« **We foresee significant potential in steel products descaling and aluminium profiles cleaning where shot blasting with ceramics can help in reducing or even eliminating chemical pickling processes.** »

Renaud Hancy, Market Manager for Surface Treatment, Saint-Gobain ZirPro



Turbine blasting tests at ZirPro's application shop

ceramics can help in reducing or even eliminating chemical pickling processes.

Moreover there are still some industrial users to convert to ceramic shot-blasting in their traditional applications of surface cleaning, micro-finishing and shot peening.

Being Committed to leading innovation in ceramic shot blasting technologies, the Saint-Gobain ZirPro R&D team is working on developing the new generations of ceramic beads in order to provide the ultimate performance to the treated surfaces.

In short we envisage many opportunities to grow the use of ZirPro's ceramic beads as a highly performing media to make shot blasting a process creating value in the manufacturing chain...

We would like to thank Renaud Hancy for this interview!

For Information:
SEPR – Saint-Gobain ZirPro
B.P. 60025 - Bâtiment L, Route de Lyon
84131 Le Pontet Cedex, France
Tel. +33.490.32.7071, Fax +33.490.32.7061
E-mail: zirpro@saint-gobain.com
www.zirpro.com

X-RAY DIFFRACTION SYSTEM



ISO
REGISTERED
9001

A2LA
ACCREDITED

The TEC 4000 x-ray diffraction system non-destructively measures stresses created by processes like welding, bending, heat treating, rolling, and shot peening. Residual stresses can either enhance or degrade component lifetime, performance, reliability. Depth profiling and retained austenite measurements also available. TEC systems measure on the shop floor or in the lab or field. TEC's lab services meet A2LA/ISO 9001: 2000.

TEC

TEC/Materials Testing Div.
Phone 865.966.5856 • www.tecstress.com