The Ninth International Conference on Shot Peening

2005087

September 6-9, 2005
Paris, France

Dr. Volker Schulze, Conference Chairman, opened the Ninth International Conference on Shot Peening with an interesting and accurate comparison between the Eiffel Tower and the International Conferences on Shot Peening. He made these correlations between the two:

1. The Eiffel Tower is a long slim bar which needs good fatigue properties to withstand wind. ICSP-9 received so many papers on fatigue that the topic had to be subdivided into steels and other properties.
2. In order to improve the fatigue properties, the tower is self-stressed compressively in the highest loaded lower part as is a shot peened component. Surface states were discussed in separate conference sessions on surface states and their stability.
3. The Eiffel Tower stands for precision in design and manufacturing. Eiffel precisely calculated the geometry of 18,000 parts in 5,000 drawings. The parts fitted together in about a tenth of a millimeter. Today this would be done by simulation. Precision shot peening technique also allows for effective calculation and the conference had a separate session on the simulation of surface treatments.
4. The tower was a hazardous venture and it became a symbol of the latest technology of its time. Engineers are open to new techniques and challenges. This is exemplified by the alternative mechanical surface treatments that were presented at ICSP-9 and are becoming more and more important for the scope of these shot peening conferences.
5. The antenna on the tower symbolizes the distribution of information around the world which should also be the results of the conference. "Please be an antenna here and come back to your home countries as a multiplicator in the knowledge about shot peening," said Dr. Schulze.

Dr. Schulze also paid tribute to Prof. M.C. Sharma, who passed away on July 4th. Prof. Sharma made a major contribution to the advancement of shot peening in India. He was a founding member of the ICSP and he was an active participant in every subsequent conference. His passing was observed with a moment of silence and he was greatly missed at the conference.

This conference, as mentioned by Dr. Schulze, was broadened to review mechanical surface treatments in addition to "traditional" shot peening including deep rolling, laser, cavitation, dry ice and ultrasonic peening. Following the main topics of the conference, the 69 papers were arranged into the following topics:

- Applications
- Modelling and Simulation
- Alternative Processes
- Fatigue and Fracture of Steels
- Fatigue and Fracture of Other Materials
- Technological Aspects
- Surface Characteristics

The conference had a real "spirit of learning." Each paper presentation was well-attended and several topics generated a great deal of discussion. It was obvious that some of the best minds in academic and technical venues are pushing the boundaries to define applications that will further the value of surface treatment.

Shot peening was well-represented as a viable process with a strong future. The conference validates our position at *The Shot Peener* that shot peening is an effective process when it is *controlled*. The presentations supported this and none so clearly as "Evolution of shot peening on the CF-18 – from OEM to robotic." The paper, by Sylvain Forgues and Major Jean Brosseau, documents the evolution of the shot peening process on the CF-18 including the original peening on the aircraft as performed by the manufacturer, the manual peening performed later as part of a life improvement program and the robotic peening more recently developed to ensure a peening of high quality and repeatability in difficult-to-reach areas. It was interesting to us that an investigation by the Australian Department of Defense (the Royal Australian Air Force had purchased the same aircraft as the Canadian Forces) revealed that the surface finish of the OEM peening was very poor—embedded glass fragments and some areas showing no indication of peening at all.

This coverage of poor peening practices segues nicely into Nadcap's presence at the conference. The Nadcap program is an industry-managed approach to conformity assessment. The program is administered by the not-for-profit Performance Review Institute (PRI). Seema Saleem, Director of European Operations said, "PRI attended the conference to share the latest information about Nadcap with the aerospace industry, meet with technical experts and learn about current developments within this dynamic field." Nadcap now has over 2,500 accredited suppliers of special processes and products and within that group, reductions in rework and audits and increases in sales are being reported. Other exhibitors were Wheelabrator Group, DISA, Progressive Technologies, Sonats, Metal Improvement Company, Saint Gobain Zirpro, Kugelstrahl Zentrum KSA, Proto, Sonats, Chircu Prod-Impex, Ecoroll AG, IITT International and Electronics Inc.

Because manufacturers now have more options in surface treatment, it is even more crucial that we understand the technical and economical benefits and limitations of each. The conferences are an ideal vehicle to learn about leading-edge technology and share experiences with business associates from around the world. ICSP-10 will be in Tokyo, Japan in September, 2008; we hope you will make plans to attend.

See more photos from the conference at www.shotpeener.com and www.shotpeening.org

Conference Chairman Volker Schulze

ICSP-9 Proceedings

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