

## **Non-Parenteral Glass Blinds Ohio Pharmaceutical Production Facility**



**Twinsburg, Ohio – June 24, 2008** – When an Ohio pharmaceutical processing facility needed a better view of their critical processes they turned to Twinsburg, Ohio-based L.J. Star for help. The pharmaceutical plant specializes in converting daily-dose oral drugs into their longer-acting parenteral equivalents. They monitor the process fluid visually in order to maintain strict control of the transformation process. Failing this, a costly batch of health-saving product could become a very expensive effluent.

To provide visual confirmation, the process system was originally equipped with glass/metal fused sight glasses that incorporated a proprietary glass formula that the manufacturer described as equivalent to the industry gold-standard, borosilicate glass. By generally accepted standards borosilicate glass contains no less than 12% boron.

The specifier was particularly interested in obtaining sight glasses that had a reliable fusion of glass to metal, because in sanitary applications it is critical to ensure that the base drugs are not contaminated during processing. Their cost is more than a million dollars so the added measure of security is well worth the marginal increase in cost.

Initially, the less expensive sight glasses performed well. But then, over a period of time, the glass became increasingly cloudy to the point that it became difficult, if not impossible, to accurately monitor the process. The reason was obvious: the glass was being etched by the process fluids.

An independent laboratory examination of glass elements used in this type of sight glass revealed that it is not borosilicate glass at all. In fact it contains only a trace of boron. In its conclusion the lab report described it as common non-parenteral glass, a soda-lime formulation. As such it would not be suitable for many pharmaceutical applications, and certainly not for use in a parenteral process. The U.S. Pharmacopeia standards forbid the use of soda-lime glass containers for parenteral applications because of the risk of the glass leaching into the process material. In addition, soda-lime glass lacks the strength, heat resistance and, in this case, resistance to chemical etching required for many applications.

The failed sight glasses were removed and replaced with Metaglas® brand sight glasses from L.J. Star Inc., which are formed by fusing borosilicate glass with a stainless steel ring. During cooling, differing coefficients of thermal expansion between the solidifying borosilicate glass and the steel ring place the glass element under powerful compressive force, giving the completed component extraordinary strength while retaining all the other desirable characteristics of borosilicate glass.

The production plant has been up and running again with full visibility through the new sight glasses. Unlike the previous sight glasses, Metaglas sight glasses can be removed and reinstalled during routine maintenance, and the expectation is that they will remain in service through the life of the processing system, lowering total cost of ownership.

To obtain additional information, contact L.J. Star Incorporated, P.O. Box 1116, Twinsburg, OH 44087. Phone: 330-405-3040. Fax: 330-405-3070. Email: [view@ljstar.com](mailto:view@ljstar.com). Or visit our web site: [www.ljstar.com/pubs/15](http://www.ljstar.com/pubs/15).

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### **About L.J. Star**

L.J. Star Incorporated provides an extensive line of process observation equipment -- sight glasses, lights, sanitary fittings, and level gage instrumentation. Product lines include Metaglas® Safety Sight Windows, Lumiglas® Explosion Proof Lights and Cameras, Visual Flow Indicators, Sight Ports, Sanitary Clamps, Magnetic Level Gages and Gage Glass. Metaglas is the #1 selling fused sight glass, proven in thousands of installations around the world. Unlike some other sight glasses, it meets stringent DIN 7079 and DIN 7080 quality standards, and it is approved for USP Type I use. For additional information, or to request third-party documentation of standards compliance and product performance claims, contact L.J. Star Incorporated, P.O. Box 1116, Twinsburg, OH 44087. Phone: 330-405-3040. Fax: 330-405-3070. Email: [view@ljstar.com](mailto:view@ljstar.com). Website: [www.ljstar.com](http://www.ljstar.com).