



Building Relationships™

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NEWS RELEASE

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CRYSTAL WINDOW & DOOR SYSTEMS UPGRADES INSULATED GLASS UNIT PRODUCTION OPERATION

- New i-3 Intercept Spacer Line from GED Delivers Many Benefits -

FLUSHING, NY, March 6, 2007 – Crystal Window & Door Systems, the award-winning manufacturer, recently announced the successful replacement of its entire insulated glass unit (IGU) production operations equipment. The result of the fast tracked upgrade allows the company to offer its customers all the current benefits of the PPG developed *Intercept* spacer insulated glass system in the most efficient and cost effective manner possible. The new system seamlessly melds machinery and software, and includes the *i-3 Intercept* spacer line equipment, new desiccant/sealant extruders, a glass washing unit and an integrated automatic oven/roll press, all produced by GED Integrated Solutions of Twinsburg, Ohio. Crystal is one of perhaps two dozen early adopters nationally of the advanced system.



Through the integration of advanced CNC control machinery and coordinating software, the new system is able to automatically accommodate varying sizes and thickness of glass and spacers, creating IGUs in a very efficient and seamless process. By fully automating the spacer width change and adjustment process, the new Crystal system allows for continuous flow operation. The need to batch work by spacer size and the downtime to change spacer coil cassettes and adjust equipment are eliminated. The new equipment readily accommodates re-makes. Benefits to Crystal include increased throughput, improved productivity, greater efficiency, and higher quality; ultimately leading to reduced costs and better customer satisfaction.

The GED *i-3 Intercept* line equipment that produces the spacer is the centerpiece of the Crystal upgrade. This new component includes a 10-spool steel coil cassette rack, 10 pigtail self-feeders, and automatically adjustable roll formers. Through precise CNC control and integration with the Crystal order system, the equipment can produce variable thickness spacers – selecting from the preloaded 10-spool rack – of any length, totally without operator intervention. With previous equipment the change out of coil spools when switching spacer thickness required the line to be shut down for 15 or more minutes. The new 45-second automatic changeover to another coil requires no line shut down, dramatically improving throughput and efficiency while reducing costs.

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Environmental responsibility is an important feature of the new system's software controlled stainless steel glass washer. The state-of-the-art unit recycles wash water in a 3-stage water treatment sequence, passing wash water through de-ionization filtration, de-chlorination and a particulate filter bed. For glass panes exiting the washer, a sophisticated air knife blower quickly dries the glass while using less energy and generating less noise than previous equipment.

Several other components are key to the new Crystal production system. A new desiccant matrix/butyl sealant "smart" linear extruder automatically and accurately applies material to the newly formed spacer. The new equipment self-adjusts for the various size spacers being produced and assures long-term IGU performance while reducing costs. The previous equipment was highly dependent on machine operator experience and expertise for efficient operation.

A new in-line curing oven/roll press, when operating in full automatic mode, senses the size and thickness of the incoming IGU and sets compression, and if needed, dwell time speed. This new equipment also uses up to 50% less energy than other high-efficiency ovens. Integration of Crystal's existing butterfly assembler unit rounds out the new IGU system.

The PPG developed *Intercept* spacer system used by the new Crystal IGU equipment continues to be the industry leading "warm-edge" spacer technology. The *Intercept* spacer's patented U-shape construction allows flexing during thermal cycling, eliminating stress on the sealant bond. This feature combined with the solid alloy continuous nature of the spacer creates an extremely durable system, with maximum seal protection and outstanding argon gas retention.

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Crystal Window & Door Systems is one of the top 60 manufacturers in North America of replacement and new construction vinyl and aluminum window and door products and high-end fenestration systems. Crystal offers a full product line, rapid order-to-delivery times, quality workmanship, innovative product features and outstanding value. Crystal markets products throughout the East Coast and in the Midwest. For further information about Crystal and its products, call 718-961-7300, or visit the website at www.crystalwindows.com.