Defect led to glass failure

MEDFORD — A defect that likely occurred during the manufacturing process caused the recent failure of a glass panel in the RCC/SOU Higher Education Center, an engineering firm has concluded.

In a report issued by Wiss, Janney, Elstner Associates, Inc. (WJE), a Seattle engineering, architectural and materials science firm, engineers concluded the glass failure was precipitated by the presence of nickel sulfide (NiS) in a tempered glass panel.

Nickel sulfide is a raw material that can be unintentionally introduced into molten glass during production, according to the WJE report. Cumulative exposure to heat when the glass is in service can eventually trigger a slight expansion of the NiS, stressing the glass, the report says.

In what was apparently a spontaneous fracture, one of 41 interior glass panels that line a three-story atrium and an entry stairway broke March 10. The draft curtain panels are designed as smoke deflectors. When the glass fractured, fragments fell approximately 40 feet onto occupants, tables and flooring on the first-floor lobby area. One student was treated at a local hospital for cuts and released the same day; another student complained of a bump on the head but refused treatment.

Facilities staff cordoned off the atrium with scaffolding and drop-cloth curtains immediately after the incident. Engineers subsequently examined the site to determine the cause. They collected samples of broken glass, examined remnants of the broken panel still in place and inspected intact glass panels for loose fittings and possible problems with structural support. According to the report, none was found.

However, microscopic examination of the glass particles in a laboratory setting revealed the presence of a nickel sulfide inclusion, the report said. WJE engineers concluded the failure was caused by a defect in the glass, which was manufactured by Oldcastle, Inc.

“RCC and SOU are reviewing options for collecting damages from the responsible parties,” said Curtis Sommerfeld, vice president of RCC College Services. In the meantime, the college will keep the area closed off to ensure student safety until a long-term remedy is implemented, which RCC and SOU managers also are discussing.

“We are absolutely committed to the safety and security of all students, employees, and visitors,” Sommerfeld added. “Every effort is being made to apply the lessons learned from this incident to better ensure the ongoing safety of the college community.”

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