

# IWCA Tempered Glass Informational Bulletin

## 2004 - Scrapers & Fabricating Debris



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Window cleaners and builders alike realize that post construction cleanups require the most efficient methods, including properly used glass scrapers. Alternatives to scraping, such as solvents, chemicals, or scrubbing can be harmful to seals and surrounding surfaces, and may also be hazardous to workers.

Glass scrapers, which won't scratch uncoated glass when properly used, have long been the industry standard and most practical method for removal of debris such as paint, adhesives, or stickers from uncoated glass, not only during construction cleaning, but throughout the useful life of the window.

However, if fabricating debris is present, it can be dislodged and trapped by a scraper during window cleaning. The result will be scratches caused by the dislodged fabricating debris.



Left - Magnified image of fabricating debris before scraping.

Right - Fabricating debris scratch after scraping.



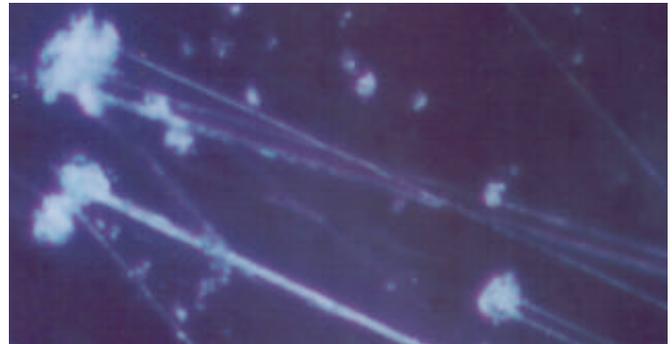
"Fabricating debris" refers to abrasive microscopic particles, including glass fines, which may become fused to glass as it contacts the rollers in some tempering ovens. Another type of heat treated glass known as "heat strengthened" may also be affected.

No current ASTM standard addresses this issue. Fabricating debris is a known quality control issue that can be minimized when temperers follow all recommended maintenance procedures for washers, rollers and other tempering equipment.

When tempered glass gets scratched because of fabricating debris, issues of liability and customer satisfaction emerge. Fabricating debris is permanent, and these issues may persist even if windows are protected during construction.

Scratched tempered glass is often associated with fabricating debris. Builders can manage this problem by requiring suppliers to provide quality tempered glass which will not scratch when properly cleaned with a glass scraper.

Scratches due to fabricating debris are normally lighter than scratches due to common abrasives like sandpaper. With the aid of a magnifying device, some of these scratches will look like comets. When a "comet scratch" can be located, the cause is obvious. The comet's "head" is fabricating debris, broken and trapped by a scraper, creating a "tail".



Fabricating debris itself is usually invisible to the naked eye, but when it is present on tempered glass, it can often be felt, and a distinct gritty sound heard when a scraper is moved very lightly (so as not to cause damage) over a clean surface.

While it may be possible to locate fabricating debris this way on clean glass, window cleaners should be careful not to assume this responsibility. The IWCA recommends testing tempered glass for fabricating debris prior to installation.

The International Window Cleaning Association also recommends that window cleaners require a damage liability waiver which has been reviewed by legal counsel to be part of all construction window cleaning contracts.

Window cleaners should be responsible for using proper methods and avoiding incidental damage. The waiver is a builder's assurance that the window cleaner will not be held responsible for damage to tempered glass with excessive fabricating debris.

Waivers typically state that the window cleaner will not be held liable for any scratches on tempered glass. A variation states that the window cleaner will not be held liable for damage attributable to the presence of fabricating debris on heat treated glass.

Waivers and customer education are also recommended for any maintenance projects involving significant glass scraper use, because tempered glass with fabricating debris will be susceptible to damage for the life of the glass.

For additional information on scratched glass visit <http://www.scratched-glass.net>  
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Images courtesy of Daniel A. Fields.