



Where I work Claudine Loisel

Stained glass is a magical material, whether in a church or a laboratory. Here, I'm examining a panel taken from a French national treasure – Notre-Dame cathedral in Paris – after it was nearly destroyed by fire on 15 April 2019. I'm leaning over a light table at the Historical Monuments Research Laboratory, my workspace west of the city. The lab closed because of the COVID-19 outbreak, but reopened on 3 June.

I'm peering intently at this detail showing the robe of King David, from a nineteenth-century painting by Charles-Laurent Maréchal, whose stained-glass work appears in cathedrals across France. This panel was especially close to the fire, so we wanted to check it for damage.

I'm wearing protective gear to shield myself from possible exposure to lead. The framework holding the glass in place is loaded with this metal, but the risk turned out to be negligible: lead melts at around 328°C, but the windows never got that hot.

I can see some small pathologies in this glass – including a few smooth, rounded

cracks that signify thermal shock – but overall we were very lucky. The firefighters did an amazing job. They knew that the windows could explode if they got wet, and they managed to control the blaze without spraying the windows.

As a glass specialist, I study the chemistry of stained glass at a microscopic and nanoscopic scale. I'm fascinated by the materials used and the evolution of techniques. You have to respect the artists. When you see a piece of glass that has barely degraded over hundreds of years, it's almost unbelievable. Glass holds many secrets.

Science aside, the first thing you notice about stained glass is its beauty. I'm very lucky to be in this field. And I'm part of an amazing team of historians, conservators and materials specialists working to restore, protect and eventually reopen Notre-Dame. After that, we'll have a glass of champagne.

Claudine Loisel is a glass specialist at the Historical Monuments Research Laboratory in Champs-Sur-Marne, France. **Interview by Chris Woolston.**

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