



Quality Alert

Nickel Sulphide Inclusion in Glass

There has been a number of nickel sulphide inclusion incidents across the division. This alert aims to provide information as to what nickel sulphide inclusion in glass is and how it can be managed.

The image to the right shows the classic signs of a glazed unit that has been subject to a nickel sulphide inclusion. The centre of the breakage can resemble the shape of a butterfly, however the only definite way of confirming this is to test the glass by a specialist provider.

Glass breakages of any kind are not covered under warranties either by glass manufacturing companies, unit manufacturers or fenestration sub-contractors.

Toughened units are susceptible to spontaneous breakage from inclusions within the glass, this is not a manufacturing defect as such, it is a naturally occurring phenomenon within glass production and cannot be prevented or detected at production stage. However heat soaked toughened glass does reduce the probability

of breakage but does not entirely remove the potential for nickel inclusion related breakages. Heat soaked toughened glass is 95% more susceptible to failure due to nickel sulphide inclusion

during the manufacturing process rather than later on site. The additional cost per unit ranges for this process is on average from 7% to 10% extra.

To be 100% certain to remove the risk of inclusions in the glass would be to use heat strengthened laminate which can be up to 15% more in cost per unit.

Inclusions, as with any other breakages are excluded from glass unit warranties. Glazing unit warranties will only cover edge seal failure, where the unit mists up.



The websites below will help explain in more detail:

<https://dualsealglass.co.uk/policy-and-procedure/>

<https://www.glazingvision.co.uk/blog/reducing-risk-spontaneous-glass-breakage/>

The Guardian website explains the warranty situation with regards to NIS inclusion (see paragraph 3)

<https://technical.iqglassuk.com/technical-advice/nickel-sulphide-inclusion/>

This advice should be used, where the above is applicable, and the information discussed with your team highlighting the following points:

- Nickel sulphide inclusion is naturally occurring
- It can be fully ruled out of being an issue if heat strengthened laminate is used
- It only tends to happen on average in the first 6 years from manufacture and then appears to go dormant
- If a breakage does occur then there is a test that can determine if nickel sulphide was the cause



Everyone has the right to be

100% Safe