

Failure Analysis of a Water Filter Housing

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Conclusions

The root cause of the water filter housing failure was a molding defect. The molding defect was a large void which reduced the thickness of the material and initiated fracture.

Discussion

A photograph of the failed water filter is shown in (Figure 1). A molding void defect was visible in the fracture surface (Figure 2).



Figure 1. Water filter as received.

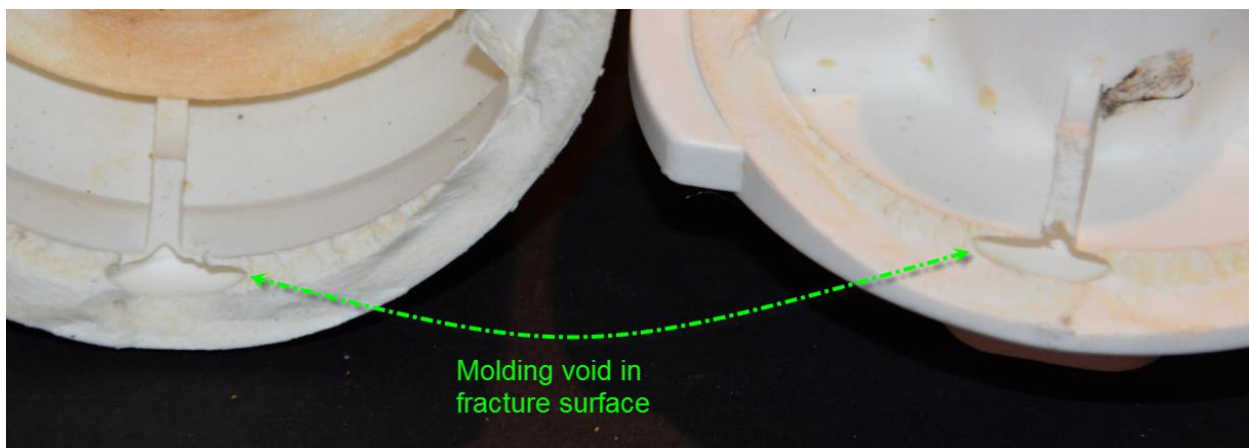


Figure 2. A large molding void was visible in the fracture surface.

Closer examination of the void revealed that it initiated the fracture as evidenced by the propagation patterns originating at and radiating away from the void in all three directions (Figure 3).