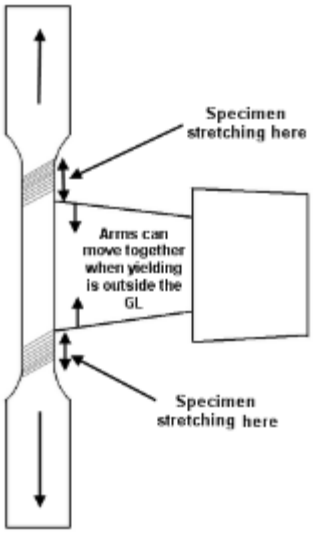
Issue 64

In this Issue:

Backward Strain at Yield— Discontinuous Yielding / YPE Material



During a recent customer visit, a concern was raised about a turnaround point on the graph that they had not previously seen. Following a bit of investigation, the customer was producing galvanized steel of various grades, some of which was aged. The graph below shows a magnified view of the fairly aggressive upper yield point (UYS or ReH), which results in an almost immediate drop in stress.

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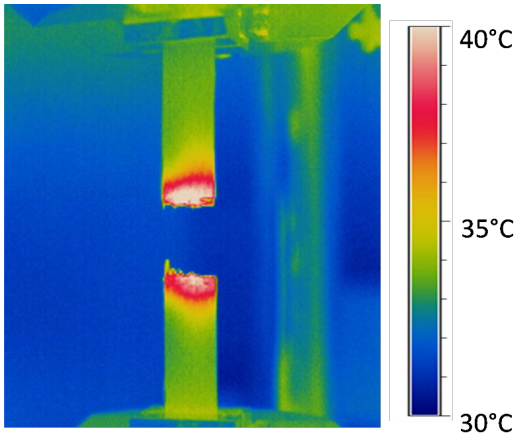
Composites on the Move

Composites are now a broad and well-established family of materials, but industry press releases frequently discuss “new and exciting” developments and opportunities. It should be remembered that there has been a commercial market in high performance, structural composites for well over 30 years, and European automotive manufacturers have made considerable use of lower performance glass fiber reinforced polyester (GFRP) bodywork since the 1950s. Furthermore, a high level of interest from the aerospace industry has resulted in a wide range of well-established static test methods giving reliable results. It might be argued that there is little news in composites testing, but in fact some exciting trends have started to develop.



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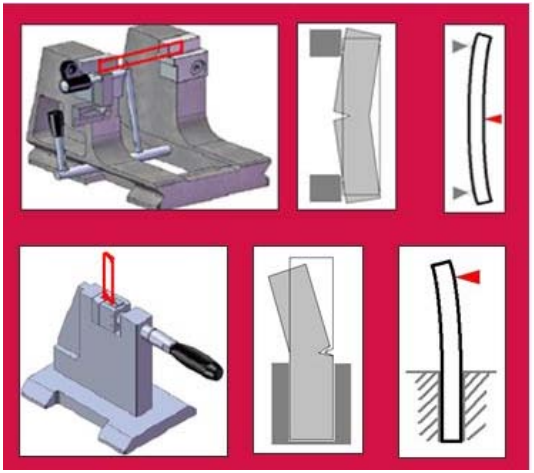
Q: Does a Charpy or an Izod impact test replicate any real-life scenarios by impacting the sample on a notched side and an unnotched side?



A: The short answer is "No".

The Charpy and Izod impact tests are designed to evaluate the impact strength of materials under very well-defined conditions. They produce results that are comparative only and their impact configurations are not deliberately designed to replicate real-life scenarios.

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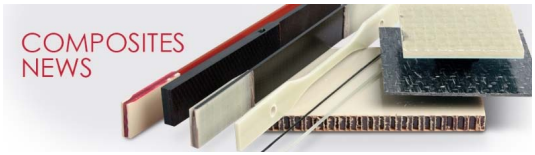
Editor's Top Picks: The Latest Industry Trends



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