



2008-03 Inspection Recommendation for Aluminothermic SkV-Elite Weld Process

Applicability

ARTC Network Wide	✓
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Audience	Main Points	Amendment Record
Delivery Managers Team Managers Ultrasonic operators	To alert operators to be aware of pronounced under head weld profile in the recently introduced Thermit SkV-Elite welds	Based on Technical Alert No. 001 from Bureau Veritas

It has been noticed that welded rail joints produced from Thermit Australia's Aluminothermic SkV-Elite process have a pronounced under head radius.

This pronounced under head radius results in a large reflection when scanned with a 70 degree search unit.

The reflection from the underhead radius is not a defect.

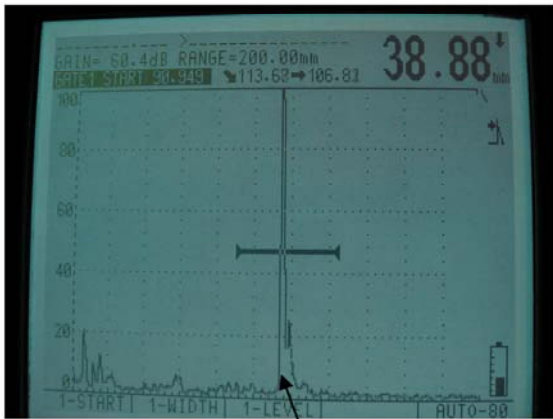
When using your 70 degree probe the beam path of the indication on the screen will be approximately the same distance as where the reflection is coming from when measured from the index point of the probe.

In the example on the next page the beam path of the reflection is 113mm and is coming from the underhead radius which is 106mm from the index point of the probe.

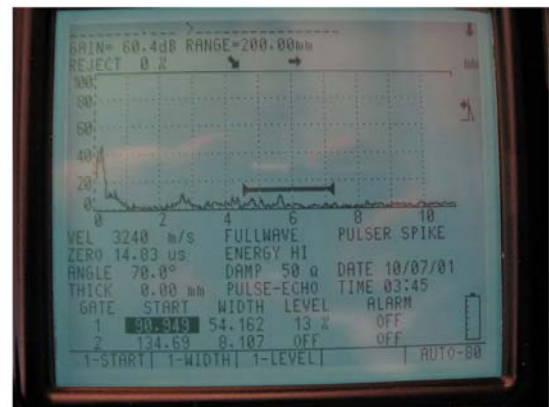
Simply use your 150mm rule and measure from the index point the distance in front of the probe equal to the beam path length of where the reflection is on the screen and the source of the reflection will be approximately underneath this point. If this aligns with the underhead radius on the opposite side of the weld from where your probe is this is more than likely the source of the reflection.

To make sure this is correct simply scan from the other side of the weld, if that point actually contains a defect then it will give a reflection when scanning from this side as well.

Issued by	Date
John Furness, Manager Standards	28 November 2008



Signal received from the pronounced under head weld radius.



When looking at the same spot (113 from radius point). If it was a real defect then there would be a corresponding reflection at approximately 113mm. In this example there is no reflection evident. Therefore we are confident the reflection was from the underhead radius.