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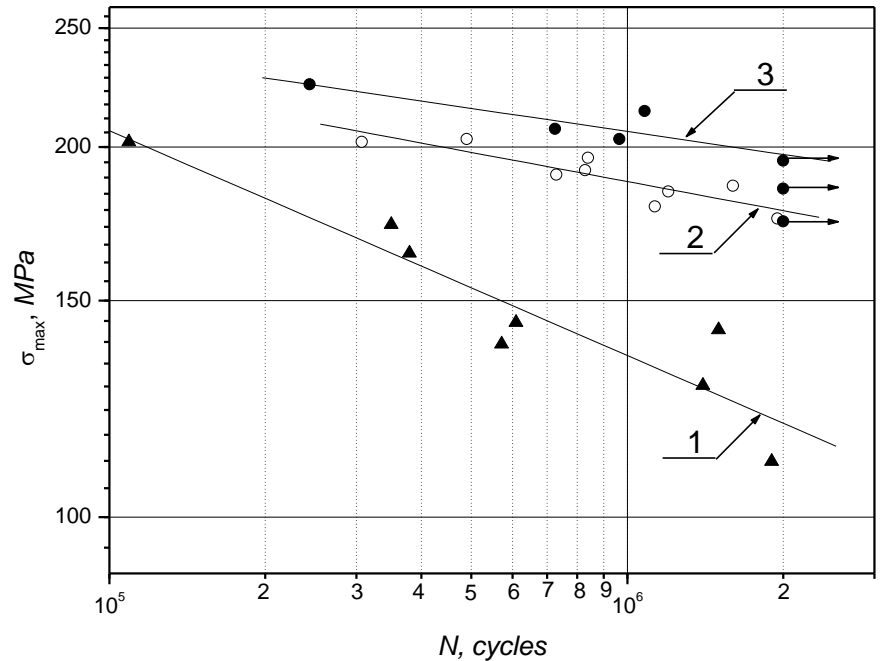
Ultrasonic Peening Solution for Residual Stress Management

Fatigue curves of welded element
(transverse non-load-carrying attachment):

1 – in as welded condition;

2 – UP was applied before fatigue testing;

3 – UP was applied after fatigue loading with the number of cycles corresponding to 50% of expected fatigue life of samples in as-welded condition.



The view of the butt welds
in as-welded condition (left side sample)
and after application of UP (right side sample)



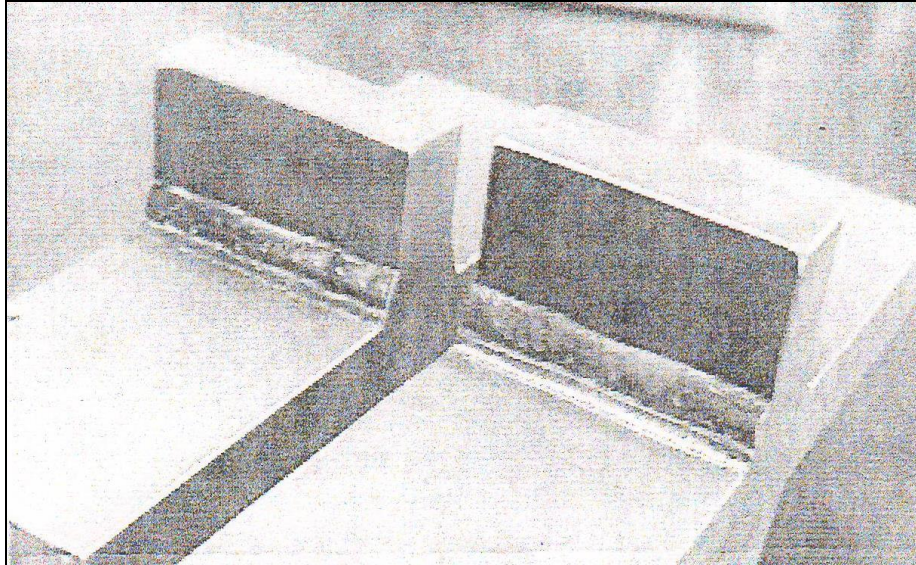
Ultrasonic Peening (UP) of Welded Elements

Determination of Residual Stress In-Depth Profile
Using Crack Compliance Method

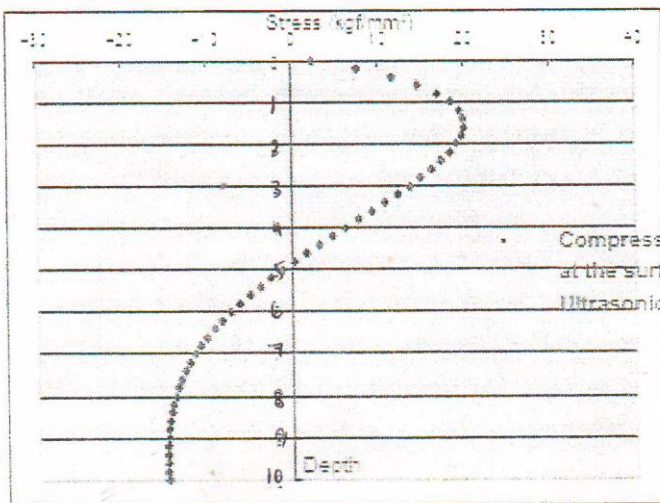
Samples of Residual Stress Measurement Using Crack Compliance Method

As-Welded

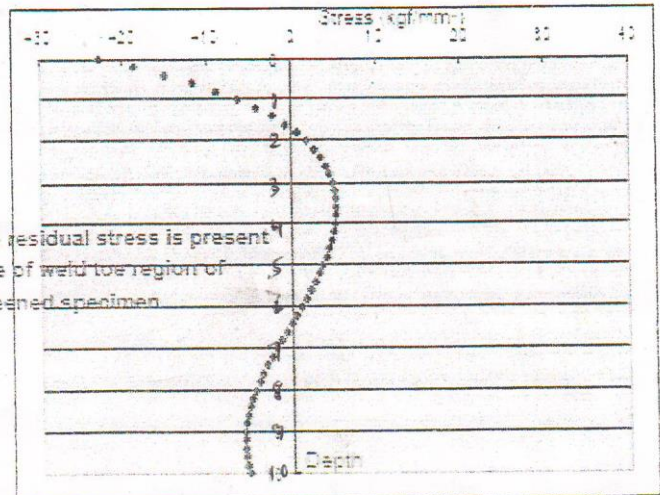
After UP



Residual Stress In-Depth Profile at Toe in Welded Samples



As-Welded



Ultrasonic Peened

Depth of Compressive Residual Stresses after UP ~ 1.5mm