



CWB Association UpDate



CWB Association | Association CWB

Issue 4 – Wednesday **March 5th** (2024 2025 Season)

Hamilton and Region

Please plan to attend our next Seminar or plant tour.

This month our dinner and seminar will be at the Burlington Holiday Inn.

Located at 3063 South Service Road, Burlington. Attitude adjustment: 5:30 p.m. Dinner: 6:00 (Sharp) Seminar 7:00 pm Dinner entrance fees for this meeting are Student \$20 non-student \$35.00

Topic

“Aluminum Welding”

By Raheel Khan

Raheel Khan is the Global Manager for Aluminum Sales at Lincoln Electric Company of Canada. He represents Lincoln's only aluminum facility, which is located in Mississauga Ontario. He has worked in the industry for 11 years within Lincoln in various roles and regions including Manitoba, Saskatchewan, and Alberta. Raheel is an alumni of Hamilton's McMaster University.

This presentation will focus on global trends in the aluminum industry, manufacturing challenges, and advancements in new welding processes to address these challenges.

- How the usage of aluminum is evolving in various industries including Automotive (Electric Vehicles), Energy, Transportation, and Shipbuilding
- How these application requirements for these new structures is changing the base material alloy chemistry requirements, and subsequently the filler metal requirements to keep up
- Brief insight into some new technologies that are emerging, including advanced welding modes and laser technology
- Brief insight into aluminum filler metal manufacturing process right here in Ontario (Canada)



April 16th, 2025

Topic or Tour: To be Announced

Contact any Hamilton Chapter Board Member

Note! You must register in advance.

Please register by contacting

Franco Piccoli (905)317-6543

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Mechanical Testing of Welds

The drop weight test

This test was developed to determine the temperature at which a brittle fracture could initiate in a steel from a small defect. It evolved from observation of fractures in ship steels where fracture initiation occurred from small brittle regions in welds such as arc strikes, tack welds, or cracks in the welds. It is primarily a test for the toughness of the steel, but has been used for measuring toughness of weld metal or the heat affected zone.

The plate being tested has a small weld bead of brittle hard facing metal deposited on it in which a small notch is made. The plate is placed on a jig and a weight dropped on it. This causes the plate to bend against the stop as shown in Fig. 52 and the hard facing bead to crack. This crack may be arrested in the plate, or may lead to complete fracture of the plate. The maximum temperature at which the specimen breaks is known as the "Nil-ductility transition temperature" (NDTT). The method is described in ASTM E208.

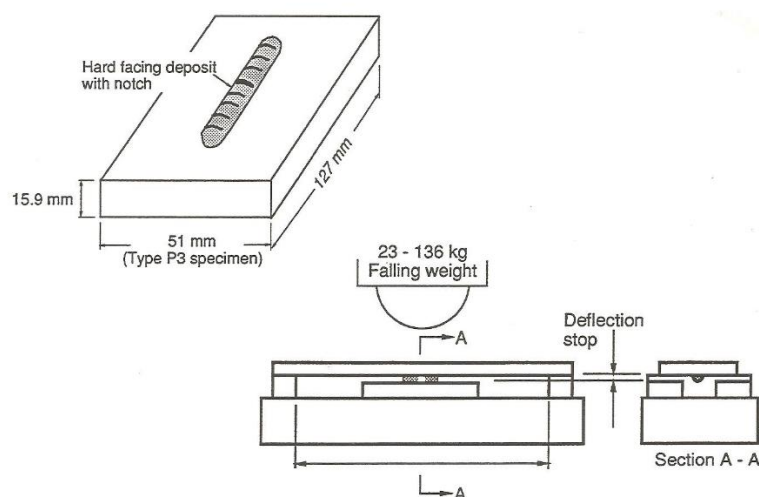


Figure 52. The principle of the drop weight test for determining the Nil-ductility transition temperature (NDTT) of a steel.

(for more information see page 48 CWB module 12 “Mechanical Testing of Welds”)

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