

THE WELD GROOVE ANGLE INITIATIVE

– Modular Fabrication Facility, Hazira



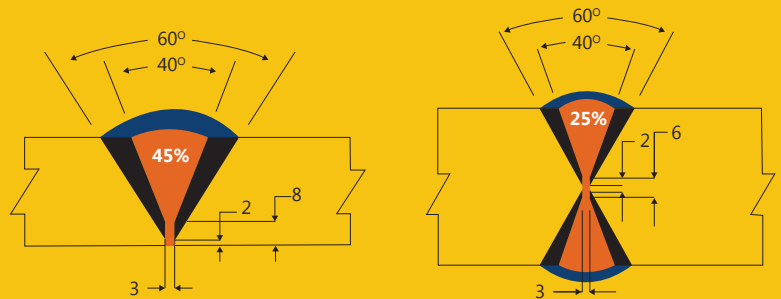
Welding is a central activity within the hydrocarbon construction business. Typical offshore structures involve fabrication of large tubular structures which are manufactured as per API2B standard. These tubular structures are further welded together based on various codes and standards, to form Piles and Jacket legs.

Fabrication of large diameter tubular structures necessitate optimization of processes to ensure enhanced production and reduction in cycle times. Weld groove design, backing material and welding process are optimized to achieve efficient production.

The team at MFF Hazira explored the possibility of reduction and change in the geometry of the groove angle in order to reduce the weld metal consumption and improve the productivity, without affecting the quality of weld.

Typically, weld groove angles conventionally measure 60°. Study concluded that reducing the angle from 60° to 40° - 45°, would achieve an average 33% reduction in volume of metal used per weld. Reduction in weld volume (weld metal) is directly related to significant saving of electrical consumption and in turn cost savings of almost 33%.

In FY 2013-14, the procedure was approved by ONGC and has been standardized since.



Achievements in ONGC's B-127 project

Material Saving of 15 Metric Tonnes

20,450 kWh of **electrical energy savings**

Achievements in ONGC's MHRND III project

Material Saving of 17.1 Metric Tonnes

Overall Cost savings of ₹25,28,949