



## ADAPTIVE WELDING OF ROOT SEAM

In automated or robotic pipe welding, the root seam is often the most demanding part. This is because the joint processing normally has to have a tolerance of  $\pm 0.10$  mm, which makes the process both technically challenging and time-consuming. Therefore, it has traditionally been difficult to fully automate this part of the welding work.

Welmax has developed software based on sensors or laser, which measures the arc and automatically adjusts parameters during welding. In this way, stable results are achieved even when the joint geometry deviates from the tolerance requirements. The system handles variations of up to  $\pm 1$  mm in production, and can also be adapted to larger deviations.

This gives particularly good results when combined with different dimensions and material qualities. The technology has been tested on Duplex, Super Duplex, Inconel, carbon steel and titanium, and has given very good welding results. How it works:

We only adjust our maximum and minimum parameters (heat input). The machine will automatically adjust the rest. Layer thickness, width, height etc.

We use adaptive welding on several welding processes.

TIG / DP-TIG / K-TIG

SAW / Single / Twin / Tandem

MIG/MAG / Single / Twin

