

# WiseRoot+

HIGHLY EFFICIENT ROOT PASS WELDING



## WiseRoot+



## PRODUCTIVE AND HIGH QUALITY MIG WELDING PROCESS

WiseRoot+ is an optimized short arc process for root pass welding without backing. The process is highly effective being significantly faster than stick (MMA), TIG and standard MIG/MAG short arc welding, yet producing high quality welds. The welding of fixed pipes in any position is possible and groove angle can be reduced by even 40%, depending on the application.

A stable and efficient arc resulting in excellent weld quality is enabled through precise real time voltage measuring, current control and right in time filler metal droplet releasing. Filler metal transfer is smooth and spatter-free. WiseRoot+ is a MIG/MAG welding process 131, 133, 135, 136 or 138 according to standard EN ISO 4063. WiseRoot+ suits for Kemppi FastMig X welding equipment and is a standard feature in FastMig X Pipe setup, and an optional extra in FastMig X Regular and Intelligent setups.

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## KEY APPLICATIONS



TANKS AND SILOS



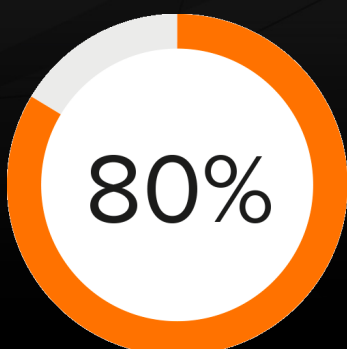
PRESSURE VESSELS  
AND BOILERS



PIPELINES

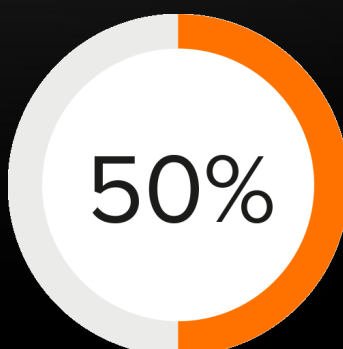


## KEY BENEFITS



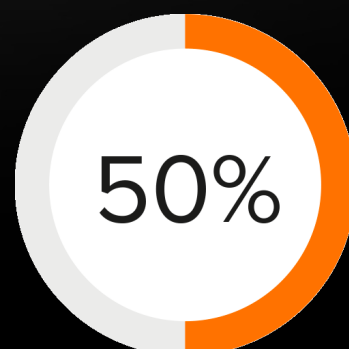
### MORE PRODUCTIVE

Weld more per day compared to normal MIG/MAG welding



### LESS LABOR COSTS

Per welded meter



### SAVINGS IN FILLER COSTS

By ability to decrease groove angle by 10°

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## BENEFITS

- Increases welding speed compared to MMA, TIG and standard MAG short arc welding
- Gives the possibility to reduce groove volume
- Allows wide range of root gaps and faces without incomplete or excessive penetration
- Easier to learn welding technique
- No need for backing ring
- Less spatter
- Allows welding of fixed pipes in all positions
- Allows welding of rotated pipes
- Allows welding with long cables
- Processes can be used with different materials; steel, stainless steels and high alloyed steels
- In WiseRoot+ excellent arc characteristic also with CO<sub>2</sub>
- Wide selection of wire diameter (0,8 – 1,2)

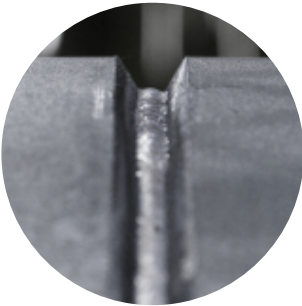


## BENEFITS



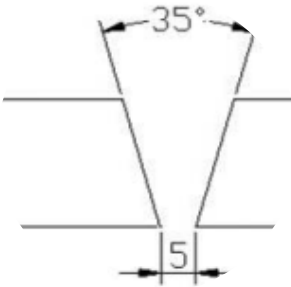
### 50% SAVINGS ON LABOR COSTS WITH WISEROOT+

With WiseRoot+ you can reach up to 50% lower labor costs per welded meter. This is a result of the faster travel speed and the ability to decrease the groove angle. The narrower groove angle means only one filling and capping pass is needed. In addition, WiseRoot+ allows fluctuation of the root gap, making the afterwork costs lower due to the limited amount of slag and spatter.



### SAVE 50% IN FILLER COSTS

After being able to narrow the groove angle from 60° to 50°, the area for filling and capping is significantly smaller leading to more than 50% reduction in the consumption of filler material .



### REACH 40% MATERIAL SAVINGS

In the example of a shaft tube longitudinal weld, it was possible to decrease the groove angle from 60° to 35° and achieve 40 % material savings and a higher welding speed. The root gap was 5 mm, but can be wider as WiseRoot+ process allows variations.

The welding position was PG, filler wire Fe 0.9-1.2 mm, and shielding gas Ar+18 % CO<sub>2</sub>.



## ALTERNATIVE - EQUIPMENT AND SOFTWARE



### WiseRoot

Optimized short arc process for productive root pass welding with FastMig M. Excellent weld quality through automatic adjustment of the welding parameters. Gives higher speed than stick (MMA), TIG or MIG/MAG short arc welding. Also available for automated welding.



WiseRoot+

Product code

9990418 (FastMig X)

X8500003 (X8 MIG Welder)

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**Kemppi** is the pioneering company within the welding industry. It is our role to develop solutions that make you win business. Headquartered in Lahti, Finland, Kemppi employs over 800 welding experts in 17 countries and has a revenue of more than 150 MEUR. Our offering includes welding solutions - intelligent equipment, welding management software and expert services - for both demanding industrial applications and ready-to-weld needs. Local expertise is available via our global partner network covering over 60 countries.

