

WiseRoot

HIGHLY EFFICIENT ROOT PASS WELDING



WiseRoot



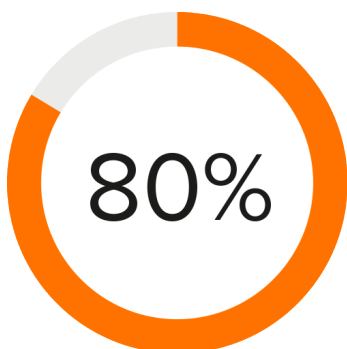
HIGHLY EFFICIENT ROOT PASS WELDING

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 or 138 according to standard EN ISO 4063.

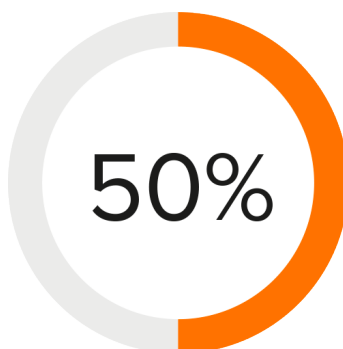


KEY BENEFITS



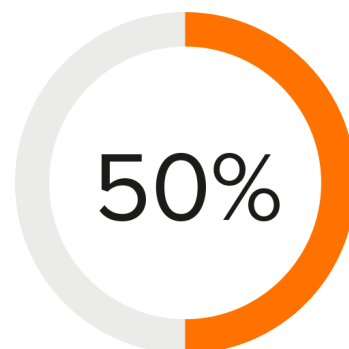
MORE PRODUCTIVE

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°

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 CO₂
- Wide selection of wire diameter (0.8 – 1.2)

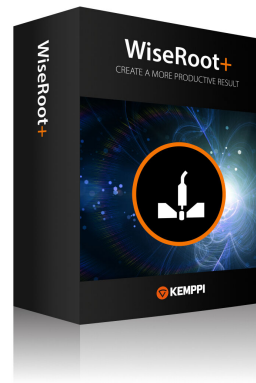


PRODUCT OPTIONS



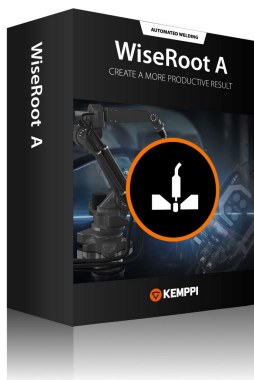
WiseRoot

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+

Optimized short arc process for productive root pass welding. Excellent weld quality through control of arc voltage and timing of filler metal droplet transfer. Gives higher speed than MMA, TIG or MIG/MAG short arc welding.



WiseRoot-A

Kemppi Wise welding process for automated welding.

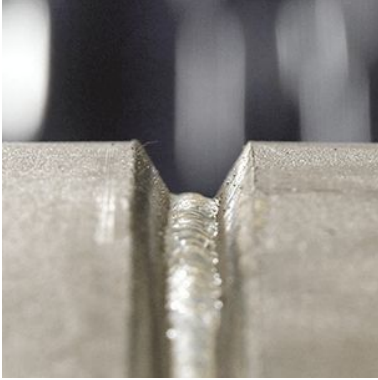


WiseRoot+-A

Kemppi Wise welding function for automated welding.



FEATURES



The best root welding you've ever seen

Our calculations show that with the WiseRoot+ application you can weld over 80 % more every day, and save up to 50 % in labor and filler costs. WiseRoot+ is a customized MIG/MAG process for root welding without backing. The WiseRoot+ process is based on precise voltage measurement and current control. It enables root pass welding in all positions, including vertical downhill and welding with or without an air gap. The voltage detecting cable ensures that you get accurate information from the arc. Despite the incredible capabilities it is easy to use; only two parameter regulations are needed.



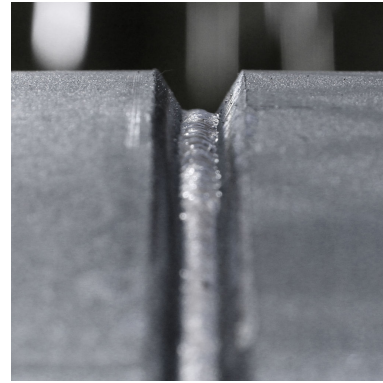
Weld over 80 % more per day

You can weld for over 80 % more each day with WiseRoot+ compared to conventional MIG/MAG welding. The welding groove can be decreased from 60° to 50°, which leads to a 50% smaller groove area for filling and capping. WiseRoot+ is also notably faster than 1-MIG or TIG: the welding travel speed with WiseRoot+ is 20-25 cm/min when compared with 1-MIG's 8-12 cm/min, and TIG's 5-9 cm/min, depending on the application. In our example case, you can weld 11 meters in one working day with WiseRoot+ and only about 6 meters with MIG/MAG.



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.

Kempfi Reach 40% material savings

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 % CO₂.



TECHNICAL SPECIFICATIONS

WiseRoot-A

Product code	9991011
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WiseRoot+-A

Product code	9990418
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Kemppi is the design leader in the arc welding industry. We are committed to boosting the quality and productivity of welding by continuous development of the welding arc and by working for a greener and more equal world. Kemppi supplies sustainable products, digital solutions, and services for professionals from industrial welding companies to single contractors. The usability and reliability of our products is our guiding principle. We operate with a highly skilled partner network covering over 70 countries to make its expertise locally available. Headquartered in Lahti, Finland, Kemppi employs close to 800 professionals in 16 countries and has a revenue of 195 MEUR in 2022.

