EWM Phoenix forceArc®

THE HIGH-PRESSURE ARC

30% FASTER WELDING

- ✓ Superior efficiency
- ✓ Perfect welding properties
- ✓ Maximum ease-of-operation

EWM HIGHTEC® WELDING

EWM Phoenix forceArc® technology

*EWM has developed an innovative welding process, **forceArc®**, which revolutionizes in particular the welding of low- and high-alloy steels and aluminium with a panel thickness of 5 mm and over! The area of application ranges from manual to automatic use e.g. with robots. **forceArc®** - technology is now integrated as standard into every welding machine in the digital PHOENIX PULSE series!*

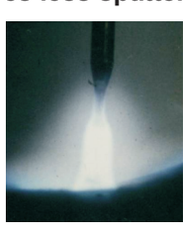
Simply More technical welding benefits:

- **Excellent fusion penetration properties**
  thanks to the high arc pressure, for optimal root formation even in case of small and narrow joints
- **Improved efficiency**
  thanks to **up to 30%** faster welding speed when welding thick materials
- **Directionally stable, smooth arc**
- **Best possible seam quality**
  thanks to narrow and small heat-affected zone as well as very little weld-reinforcement
- **Fast stabilisation of changes in length**
  thanks to the highly dynamic arc
- **Minimum distortion**
  thanks to reduced energy per unit length
- **No undercuts**
  thanks to the short arc
- **Virtually spatter-free welding**
  thanks to highly dynamic current regulation via the digital system

For further information & pricing contact your local Bywise Member

EWM-*forceArc*® gives less spatter

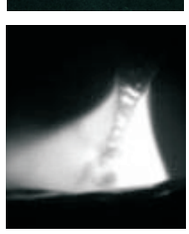
MIG/MAG standard spray arc



With conventional power sources, there is an energy increase immediately after a short-circuit phase, which causes spatter.

Disadvantage
- Spatter formation

EWM-*forceArc*® arc



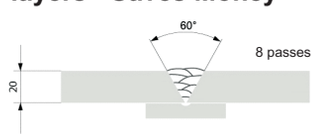
The highly-dynamic instantaneous value regulation configured for forceArc® makes it possible to compensate quickly for any possible short-circuit phases.

Advantages
- Less spatter formation and therefore less finishing work

EWM-*forceArc*® - Fewer layers - Saves Money

MIG/MAG standard spray arc

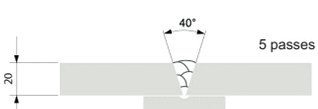
Moderate root formation



Disadvantage
- disposition to undercutting
- difficult root formation in tight and narrow joints

EWM-*forceArc*® arc

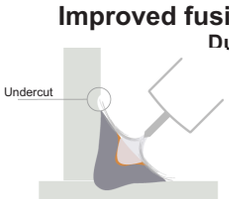
Small seam included angle



Advantages
- High saving potential in weld seam preparation
- Fewer layers
- Less additive, shielding gas consumption and welding time

Particularly advantageous for very large panel thicknesses > 10 mm for eg.

EWM-*forceArc*®
Improved fusion penetration characteristics
Due to high-pressure arc

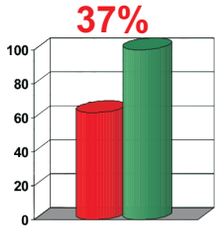


MIG/MAG standard spray arc
Large seam included angle
Disadvantages
- Lot of work during weld seam preparation
- High material consumption

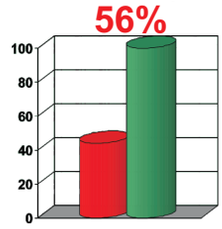
EWM-*forceArc*® arc
Ideal seam geometry in secure root formation
Advantages
- Approximation towards ideal seam geometry, concave seam
- No undercutting
- Excellent seam quality
- Secure root formation particularly in tight and narrow joints

EWM-*forceArc*® Savings

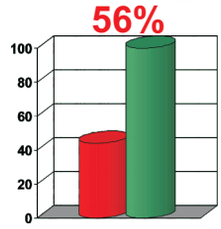
Wire Consumption 37%



Gas Consumption 56%



Total Saving 56%



Comparison of standard spray arc with **EWM-*forceArc*®**
Thickness of the material:20 mm
Seam length1000 mm
Seam preparations spray arc:V 60 degrees 8 passes
Seam preparation EWM MIG forceArc:V 40 degrees 5 passes

EWM-*forceArc*®
Standard Spray Arc