Böhler Welding's economic and ecological MIG/MAG process combinations

Böhler Welding's advanced copper-free welding wire, particularly when used with welding process control features such as RapiDeep and QuickPulse, offer the best possible combination of weld economy and protection of the environment. This article outlines why.

Uniting the best of two worlds, ECOspark™ copper-free welding wire is designed for outstanding efficiency in manual and automatic GMAW welding processes, as well as being more environmentally friendly for a healthier future world.

The ECOspark consumable portfolio represents the latest development of copper-free solid wire technology for joining non-alloyed and low alloyed steels. Benefits of using this Böhler Welding consumable include: the ultimate stable arc; perfect wire feedability; a wide tolerance window for welding parameter; and lower spatter levels, leading to less post weld grinding and cleaning.

User advantages include:

- No copper-plating on the wire surface, which reduces clogging of liners due to copper abrasion leading to less system downtime for cleaning wire guides.
- Safe arc ignition, which reduces initial spatter levels and gives better reliability and cleaner results for short seams and tack welds.
- Stable arc with large parameter box: Easy and quick parameter settings that deliver very low spatter levels and less finishing.
- Consistent wire feeding properties for trouble-free and productive welding at high welding currents.
- Very low formation of silica islands, again resulting in less finishing such as grinding and improved coating adhesion.
- Stable BS300 (S) spools that deliver reliable unwinding, easy handling and no spool deformation.

RapiDeep and QuickPulse

There are additional benefits to the excellent properties of ECOspark wires which become available when coupled with the advanced MIG/MAG welding process control features available on Böhler Welding equipment ranges such as Uranos and Terra welding power systems. Most notable among these are RapiDeep and QuickPulse.

Using ECOspark wires with either of these control features delivers high productivity welding with excellent bead shapes, smooth fusion with the base materials, no undercut and ideal penetration.

In high amperage butt-welding applications, the combination of ECOspark with Rapideep or QuickPulse also allows longer stick-out settings to be used which narrow the weld preparation angles, which further improves productivity.

Rapideep process control is an innovative welding feature that allows highly concentrated short arcs to be used, resulting in a consistent heat input reduction, higher precision, easier control, deeper penetration as well as reduced risk of undercut. Rapideep allows significant increases in welding speed, which, through higher productivity and lower arc-on time, has a direct impact on reducing total welding costs

RapiDeep gives better penetration and smoother fusion with base material when operating at the same wire speed and travel speed as would be used in conventional MIG/MAG welding – and even at welding speed raised by 60%, higher penetration with very good bead shapes are still produced.

Böhler Welding's Uranos 4000 PME MIG/MAG welding system. Right: ECOspark, the latest copper-free solid wire.

QuickPulse is a pulsed MIG/MAG version that offers the same benefits as RapiDeep, but with the additional heat input reduction, high precision, deeper penetration and increases of welding speed associated with pulsed GMAW.

In South Africa, QuickPulse is an available option for Böhler Welding's premium Uranos 4000 PME welding system, while RapiDeep can be installed on Uranos and Terra equipment.

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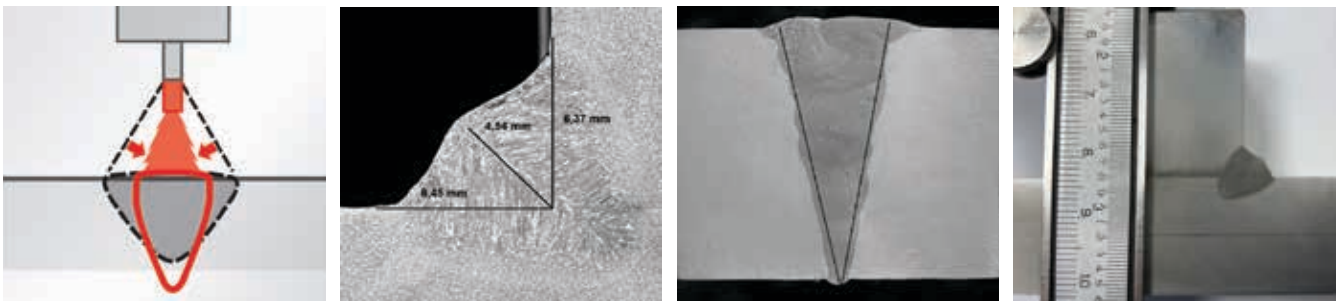

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