



MAKING GREEN WORK.

BIO-CIRCLE®

Bio-Circle Surface Technology GmbH, Flv, schweißen - DE - AL4/ 2013
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Welding

bio-chem E-WELD products are **premium products** in the field of welding. For more than 25 years the R & D department at Bio-Circle Surface Technology GmbH has been developing and manufacturing these products that are sold by qualified personnel.

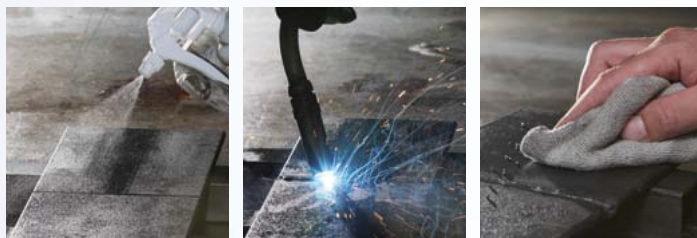
Product properties of all E-WELD products:

- ➔ Time- and cost-saving
- ➔ Good wetting
- ➔ Minimal consumption
- ➔ No silicone, no solvents
- ➔ Excellent separation effect
- ➔ Facilitates trouble-free zinc coating and varnishing
- ➔ Stable emulsions, i.e. the active substances will not separate during storage
- ➔ No arduous bottle shaking required
- ➔ The emulsion will remain stable for its entire shelf life of at least one year (frost-protected storage)



The bio-chem E-WELDS are ready for use. Just take the spray bottle, **spray on, weld, wipe off – finished!** No time-consuming preparation of a welding separating agent from concentrate, and hence no variations in quality that might occur because of too much or too little concentrate.

bio-chem anti-spatter spray products have been granted various approvals for **trouble-free zinc coating and varnishing after welding**. These include approvals issued by Herning Zinc Coating, Volkswagen AG, SLT Laser Technology and the Dresden Institute for Corrosion Protection, to name but a few.



MAKING GREEN WORK.



With the bio-chem products and technologies we want to meet the needs of the people of today through sustainability, and use resources so as to preserve them for future generations.

- ➔ Powerful products with natural active substances, as far as technically possible
- ➔ General abandonment of the use of preservatives
- ➔ Fragrances are specifically chosen, and their use is limited or even eliminated.
- ➔ Our products are free from harmful chemicals – they do not contain any substance from the current EChA Candidate List (REACH).
- ➔ Chelating agents such as EDTA or NTA are not used in any of our products.
- ➔ Protection of resources through the use of recycling systems

E-WELD 3

Odourless blue **welding separating agent** with **temporary corrosion protection** and simultaneous **cleaning effect** in a functional refillable handheld bottle with trigger. Prevents sticking of weld spatter in dry and wet state, thus protecting work pieces, welding nozzles and welding equipment.

- ➔ **Non-combustible, silicone- and solvent-free**
- ➔ **Galvanizing and varnishing possible after welding without any problems**
- ➔ **Economical in use – a thin protective film is sufficient**
- ➔ **Surface-active substances contained herein are biodegradable**

Fields of use • When welding stainless steel or other metals

- Also applicable in laser cutting
- Vehicle construction, extraordinary construction, steelwork, container- and boiler construction, crane construction, automotive- and supply industry and other metalworking enterprises



Tip:

E-WELD 3 for laser cutting. Prevents the development of skimmings at the laser penetration point and provides clean cutting edges. Powder burns on the inside can be removed more easily. Oil-free E-Weld 3 ensures that the laser looks clean.

Please note:
When used in processes check possible effects on subsequent process stages!



E-WELD 3

- D50008** 500 mL PET bottle with trigger
Trading unit: 20 x 500 mL (1 box)
- D01008** 10 L jerrycan
- D03008** 30 L jerrycan
- D20008** 200 L drum
- D10008** 1000 L IBC

E-WELD 4

This state-of-the-art **separating lotion** with its safety guarantee contributes to optimum welding. Free from solvents, mineral oil and silicone. No adverse effects on downstream processes such as varnishing or galvanizing. Pleasant citrus scent. No unpleasant odours or smoke nuisance for the user during welding.

- ➔ **Guaranteed safety during welding – pore-free weld seams are guaranteed even in case of excessive separating lotion**
- ➔ **Excellent spatter protection guarantee, even high-energy spatter won't stick**
- ➔ **Protective film guarantees temporary corrosion protection**
- ➔ **On the basis of natural rapeseed components – using renewable raw materials means saving resources**

Fields of use • For welding steel, metals, austenitic materials

- For the protection of tools, appliances and welding nozzles
- Vehicle construction, extraordinary construction, steelwork, container- and boiler construction, crane construction, automotive- and supply industry and other metalworking enterprises



OPTIMISED FORMULA!

E-WELD 4

- D50012** 500 mL PET bottle with trigger
Trading unit: 20 x 500 mL (1 box)
- D01012** 10 L jerrycan
- D03012** 30 L jerrycan
- D20012** 200 L drum
- D10012** 1000 L IBC

Tip:

Excellent corrosion protection. Also protects the alignment tables.



E-WELD



Welding protection spray on the basis of nature-identical ingredients. Hazelnut- and sunflower extracts prevent weld splatter from sticking to the surfaces and guarantee optimum welding. Features good temporary corrosion protection, effective in dry and wet state and features a good cleaning effect.

- ➔ **Odourless**
- ➔ **Solvent- and silicone-free**
- ➔ **Galvanizing and varnishing possible after welding without any problems**
– Clearance by zinc coaters Hering Varmforzinkning A/S
- ➔ **Excellent wetting properties – a thin coating features excellent separation properties**

Fields of use • For welding austenitic materials, steel and other metals

- For the protection of the welding nozzles and the welding equipment
- Vehicle construction, extraordinary construction, steelwork, container- and boiler construction, crane construction, automotive- and supply industry and other metalworking enterprises



**Especially for multilayer welding.
Facilitates welding of thin
and/or preheated metal sheets.**



E-WELD

- ➔ **D50001** 500 mL PET bottle with trigger
Trading unit: 20 x 500 mL (1 box)
- ➔ **D01001** 10 L jerrycan
- ➔ **D03001** 30 L jerrycan
- ➔ **D20001** 200 L drum
- ➔ **D10001** 1000 L IBC

E-WELD 2 (High temperature)

- ➔ **D50002** 500 mL PET bottle with trigger
Trading unit: 20 x 500 mL (1 box)
- ➔ **D01002** 10 L jerrycan
- ➔ **D03002** 30 L jerrycan
- ➔ **D20002** 200 L drum
- ➔ **D10002** 1000 L IBC

bio-chem[®]
Surface Technology

LOOS
Bosch Group

LOOS relies on bio-chem E-WELD 4

LOOS – Bosch Industriekessel GmbH – with over 140 years of specialization in industrial boiler construction offers extensive know-how and experience advantage. Innovation and responsibility, quality-consciousness and creativity are the benchmarks for the product range and the services. “We have found the solution for our welding: bio-chem E-WELD 4,” says graduate engineer Ferdinand Smola, SFI production manager boilers W2.

KBA
Koenig & Bauer AG

KBA builds on bio-chem E-WELD 3 and E-WELD 2

The KOENIG & BAUER consortium offers the widest product range of the trade and is one of the biggest printing machine manufacturers in the world. Andreas Hernich, head of manufacturing technology: “After various tests we have decided for the bio-chem products E-WELD 3 and E-WELD 2, with E-WELD 2 being used successfully on our welding robots.”

E-WELD Gel

Odourless, economical **nozzle lubricant** made of highly pure, light-coloured fats that guarantee maximum cleanliness and a pleasant working atmosphere. Builds a protective film on the flow and gas nozzles, thus preventing the burning-in of weld spatter. This means prophylactic protection against short circuits and gas shortages due to burnt-in weld spatter.

- ➔ **Silicone-free**
- ➔ **Does not contain solvents and is free from abrasive substances**
- ➔ **Lengthens the life span of the welding nozzles – saves costs**
- ➔ **Economical in use – high yield**

Fields of use • Highly versatile for the protection of nozzles when welding, e.g. in vehicle construction, extraordinary construction, steelwork, container- and boiler construction, crane construction, automotive- and supply industry and other metalworking enterprises



Tip:

bio-chem E-WELD Gel also protects the welder's apron and gloves as well as the safety boots from weld spatter.



E-WELD Gel

- 🔴 **D20006** 200 g tin
Trading unit: 12 x 200 g (1 box)
- 🔴 **D01006** 10 L pail



Tin with magnet!
Adheres optimally to vertical metal surfaces!

E-WELD 5

Fast and easy **nozzle protection**. Just spray E-WELD 5 into the welding nozzle and start welding. No pore formation even with excessive separating agent. Also excellent application properties in impulse welding and with special welding gases.



E-WELD 5

- 🔴 **D25013** 250 mL pump spray bottle
Trading unit: 12 x 250 mL (1 box)
- 🔴 **D01013** 10 L jerrycan
- D03013** 30 L jerrycan



The surface-active substances contained herein are biodegradable.

Safety data sheets in accordance with the new EU chemical regulations (REACH) available upon request.



Münch GmbH uses E-WELD 4

The supplier to various divisions of the steel-working industry manufactures in state-of-the-art plants. Münch GmbH uses E-WELD 4 prior to lasering tubular steel. The separating lotion prevents slag and spatter from adhering to the steel tubes. In addition the enterprise, which has capacities in sheet and tube lasering, edge bending, machining and welding, uses among other things products such as FT 100 and FT 200. Turning, milling and drilling parts are degreased in the BIO-CIRCLE using BIO-CIRCLE Liquid.



KINKELE and bio-chem E-WELD 4

When it comes to welding, Josef Weber, production manager of KINKELE GmbH & Co. KG, banks on bio-chem products. KINKELE offers customized solutions in mechanical engineering, apparatus engineering and constructional steelwork and has evolved into one of the most important enterprises of its kind. In mechanical engineering the versatile and tradition-steeped enterprise takes on the manufacturing, assembly and running-in tests of special machines, complete apparatuses and plants.



E-WELD ROB



Cost-effective robotic welding requires uninterrupted operation. By applying bio-chem **E-WELD ROB** in the automatic cleaning units of the welding robots, the welding nozzle is protected from weld spatter by a thin protective film, even at high amperes and high temperatures. This **extends the service life of the welding nozzles**, and the cost-intensive replacement of nozzles is reduced to a minimum. The **efficiency of the welding process** is increased.

➔ **No sticking on the nozzles**

➔ **Based on renewable raw materials**

E-WELD ROB

📦 **D01014** 10 L jerrycan

📦 **D03014** 30 L jerrycan

📦 **D20014** 200 L drum



Bio-Circle Racing

In the 2013 motorsports racing season Bio-Circle Surface Technology GmbH is acting as sponsor. In the Porsche Mobil 1 Supercup we support the long-standing Konrad Motorsport racing team from Verl. Top performance, team spirit and passion – that's what the premium sport and our company Bio-Circle have in common.

To learn more

please visit our **Facebook page**

"Bio-Circle Surface Technology GmbH".



neusser form blech

bio-chem E-WELD at neusser formblech

"neusser formblech offers numerous system solutions in sheet metal working for the mechanical engineering, electrical engineering, and utility vehicle industries. E-Weld has been used in our house for ages. It features the following properties: when applied on steel, weld spatter is easy to remove, pores don't appear, and downstream varnishing processes are not affected. In laser cutting E-WELD prevents slag adhesion in cutting processes."

FFB **Feldbinder**
Spezialfahrzeugwerke GmbH

bio-chem E-WELD 4 at Feldbinder

"Feldbinder Spritzfahrzeugwerke GmbH is a manufacturer of silo vehicles and attaches great importance to safety and product quality. E-Weld 4 doesn't generate pores on stainless steel, and there are no residues in electro-polishing. On aluminium E-Weld 4 is applied next to the weld seam. Weld spatter is easy to remove, and the product features a good material compatibility."

Accessories

For an easy application of the bio-chem products

The spray nozzles are sturdy and have been chosen specifically for welding because they guarantee finest atomization. The spray bottles are refillable and can easily be refilled from the jerricans (10 l and 30 L) or drums (200 L) by means of a drain cock.

Tap



- H00003** for 5 L and 10 L jerrycans
- H00004** for 30 L jerrycans
- H00015** for 200 L drums ¾" incl. adapter

Stainless steel hand-operated pump



- H00006** for 200 L drums
(discharge 0.6 l hoist)
Standard drum thread 2"

Plastic hand-operated pump



- H00007** for 200 L drums
(discharge 0.3 l hoist)
Standard drum thread 2"
and 1 m hose

Jerrycan cap spanner, Deheader for bung holes



- H00016** Jerrycan cap spanner
for both DIN 51 and DIN 61,
plastic, colour: green
- H00030** deheader for bung holes,
metall, for bio-chem 200 L drums

Trigger bottle



- H00001** 500 mL
trigger with 0.4 mm brass nozzle
- H00101** 1000 mL
trigger with 0,6 mm plastic nozzle

PET bottle with trigger

- H00033** 500 mL
trigger with 0,4 mm plastic nozzle

Aluminium bottle with trigger

- H00002** 600 mL
trigger with 0.4 mm brass nozzle

Spray nozzle



- H00014** with 0.4 mm brass nozzle
for 500 mL plastic bottle
- H50012** with 0.4 mm plastic nozzle
for 500 mL PET bottle
- H00005** with 0.4 mm brass nozzle
for 600 mL aluminium bottle

Any questions?

If you have any questions or require additional information, please feel free to contact us via telephone, fax or e-mail. We're looking forward to offering you advice and support.

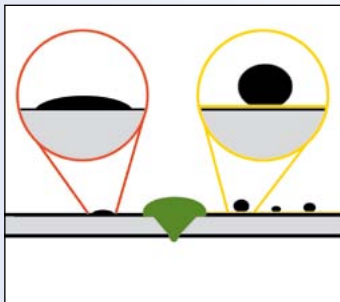
Telephone: +49(0)5241 9443-0

E-mail: service@bio-circle.de



The E-WELD family at a glance

	Basis	Multi-layer welding	Corrosion inhibitor	Compatible with coating processes (zinc coating, varnishing, etc.)	Long-term effect works wet and dry	Low-odour, no fumes, minimal emission	Cleaning and degreasing effect at the same time	Field of use
E-WELD 4 – Guaranteed safety during welding – Even in case of excess separating lotion pore-free weld seams are guaranteed. – Premium quality								
	Emulsion on the basis of rapeseed components	+	++	++	++	++	+	All metals, perfect for stainless steel
E-WELD 3 – Tried and tested separating agent with concurrent cleaning and degreasing effect without any residues – Also perfectly suited for laser cutting								
	Water-based separating agent preparation	+	+	++	++	++	++	Steel and stainless steel
E-WELD 2 – Especially for welding thin and/or preheated metal sheets – Very good for multi-layer weld seams								
	Water-based separating agent emulsion	++	++	++	++	++	+	All metals
E-WELD – The universal anti-spatter spray for all applications – Good compatibility with all metals								
	Water-based emulsion on the basis of nature-identical ingredients	+	++	++	++	++	+	All metals



E-WELD's separation effect

The bio-chem E-WELDS contain selected extracts that leave a protective film on the metals that prevents the weld spatter from sticking on. These extracts achieve an excellent separation effect even if applied in a very thin layer. Therefore the bio-chem E-WELDS distinguish themselves also for their economical use.

⊖ Without E-WELD: drops of hot metal stick on the surface and the tools. Removal with wire brushes or grinding wheels is labour-intensive. Moreover weld spatter that is not removed often causes corrosion.

⊕ With E-WELD: A thin film acts as a barrier between the work piece and the hot metal, which protects the work piece and the equipment.

⊖ Excessive E-WELD vaporizes on the hot surface of the work piece.

Bio-Circle Surface Technology GmbH

Bio-Circle Surface Technology GmbH
 Berensweg 200
 D-33334 Gütersloh
 Telephone: +49 (0)5241 9443-0
 Telefax: +49 (0)5241 9443-44

E-mail: service@bio-circle.de
www.bio-circle.de