

EWM is the largest German manufacturer and one of the world's most important suppliers of arc welding technology. We offer welding equipment, welding torches, welding consumables and welding accessories for manual and automated applications. With over 700 employees at international locations and plants, and more than 400 sales and service points worldwide we ensure EWM's nationwide presence.

Here you will find an overview of the European welding industry:

Market environment: information from EWA (European Welding Association) - market of arc welding equipment in Europe: 1,2 billion EURO - employees of welding industry in Europe 25.000

- Welding torches: approx. 30 - 40 %, power sources significantly more → Affected approx. 50% of sales
- Globally networked supply chains
- Welding and cutting technology as core competence in almost all industrial applications

Products:

- Welding and cutting products - especially welding and cutting torches and power sources
- Joining and cutting of all types of metallic materials
- typical customer sectors:
 - General mechanical and plant engineering
 - Infrastructure, civil engineering, bridge construction
 - Automotive engineering, shipbuilding, rail vehicle construction, aerospace technology
 - Agricultural machinery, construction machinery, defense technology
 - Power engineering, wind turbines, pipeline construction

Requirements profile:

- Service life: 1 to 5 years (torches) and 10 to 20 years (power sources)
- Development time: 3 years
- Required availability period of spare parts: 10 years according to Ecodesign Regulation
- Temperature resistance: Temperatures partly greater than 300 °C
- Dielectric strength: 1000 to 2100 V (ignition voltages > 10,000 V)
- UV resistance to arc radiation
- Flame protection

Many of the above require special materials, and PFAS is needed to meet the following requirements:

- High temperature resistance up to 300 °C

- Dielectric strength > 1000 V
- Good machinability
- Minimal splash adhesion
- Low modulus of elasticity
- Good formability
- UV stability
- -> Long service life of wear parts/torch body -> Best possible welding results (little to no scrap) -> Conservation of resources
- The electrical insulation for minimum dielectric strength 1000 V according to IEC 60974-7
- High temperature resistance for welding environments
- Impact resistance
- UV resistance to arc radiation
- Low mechanical resistance/slipperiness

Furthermore PFAS are needed to meet the following evidence and analytical aspects:

- Ecodesign directive
- IEC 60974
- Product quality and performance – only attainable with PFAS

Lack of Substitution:

- No substitution for safe temperature-loaded electrical insulations
- the use of silicone for O-rings is not recommended due to existing and expected limitations and Silicone-free requirements (automotive, paintability)