



EHEDG

Working Group Welding

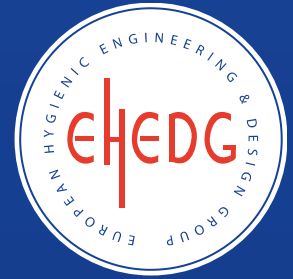
The EHEDG Working Group Welding today



Who gives input ...

Research institutes
Component manufacturer
Welding equipment supplier
Hygienic consultants
Welding experts
Food manufacturer

Timeline



- Customers are referring in their own specifications to EHEDG Doc. 9, 35
- 3-A has cross references to Doc. 9, 35

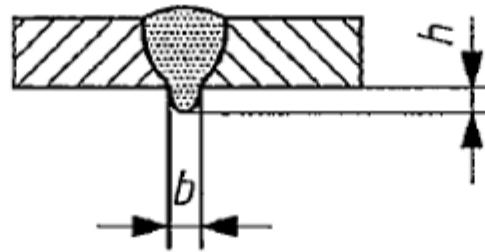


EN 25817

- AWS-18.1 / 3-A
- ASME BPE
- ISO 5817
- EHEDG Doc. 9
- Color Charts FORCE

Different standards: e.g. Criteria Convexity

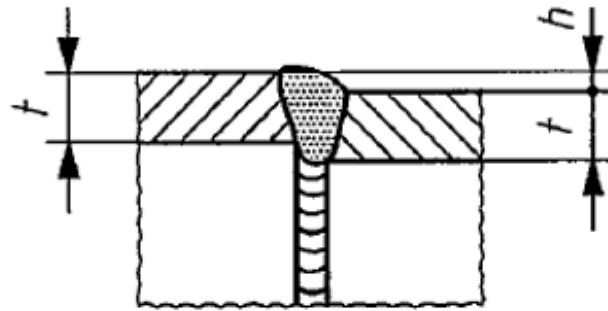
Convexity of the internal diameter



ASME BPE 2022	ISO5817-B	ISO5817-C	AWS-18.1/2	EHEDG Doc.35
Max. 10% t	$h \leq 1\text{mm} + 10\% b$	$h \leq 1\text{mm} + 30\% b$	0,3mm	Max. 10% t

Different standards: e.g. criteria misalignment

Misalignment



ASME BPE 2022	ISO5817-B	ISO5817-C	AWS-18.1/2	EHEDG Doc.35
Max. 15% $t < 4''$ OD	$h \leq 50\% t$ max. 2mm	$h \leq 50\% t$ max. 3mm	15% t	OD < 29mm: max. 15%t OD < 85mm: max. 20%t OD > 85mm: max. 0,6mm

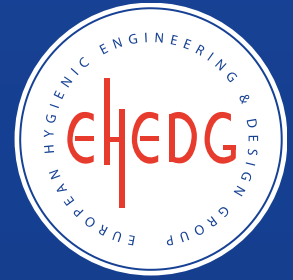
Revision Doc 35

- Focus on pipe welding
- Adaption of new requirements
- Monitor equipment status
- Review discoloration levels depending on surface preparation

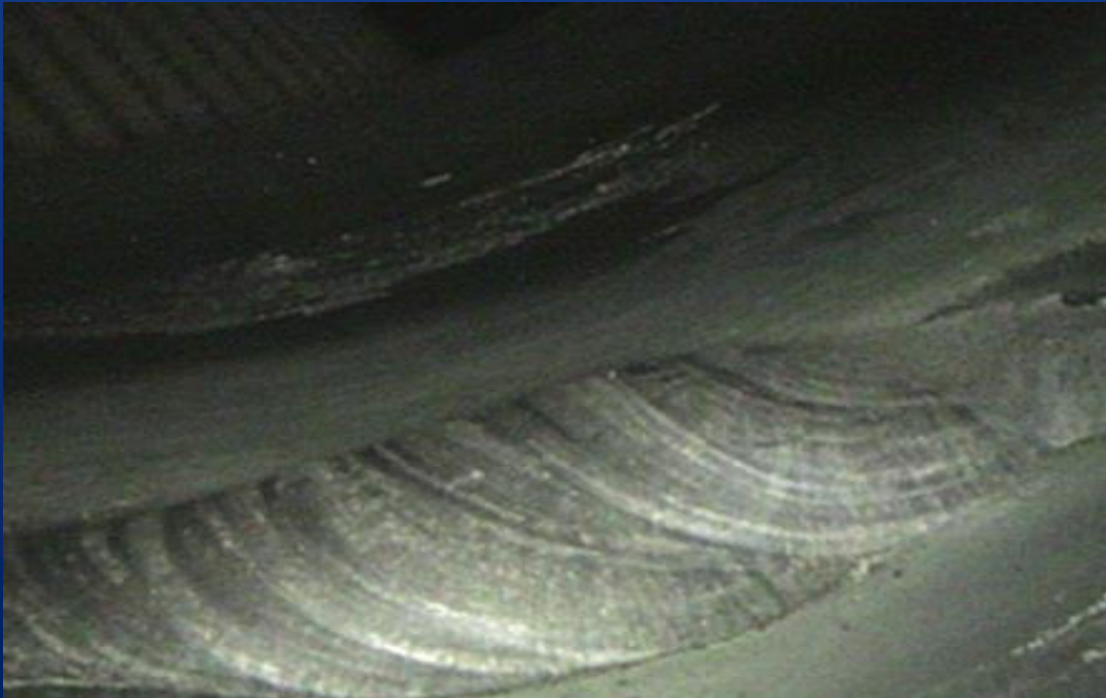
Revision Doc. 9

- Focus on all other welding challenges than pipes
- Additional welding procedures than TIG, MID/MAG
- Integration of additional weld types and applications (product contacted) with their quality definitions

Different quality expectations performed by an ISO approved welder and machine operator



... fulfilling PED requirements



... fulfilling hygienic demands

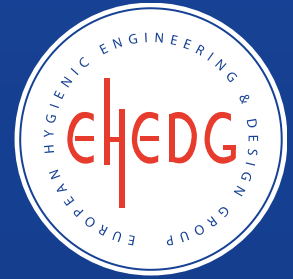


Group statement regarding training of welders and operators focussed on hygienic welding



“In the last years there is a tendency visible from installation and manufacturing companies working on hygienic applications to invest more and more in mechanized welding (orbital and turntable) equipment to achieve repeatedly the expected high-quality levels. Furthermore, these investments are also done to compensate the worldwide lack of high educated manual welders. In addition to the current ISO standards ISO 9606 (manual welder approvals) and ISO 14732 (welding operators), a basic and later on continuous training on the mechanized equipment for the manufacturing of hygienic welds is essential. Manufactures should invest into the equipment and into the training! Certified manual welders according to ISO 9606 should also be trained and be sensitized with the focus on the important hygienic requirements. In both cases welders and operators should be approved before they start working on hygienic welding applications.”

The expected welder shortage in the futur



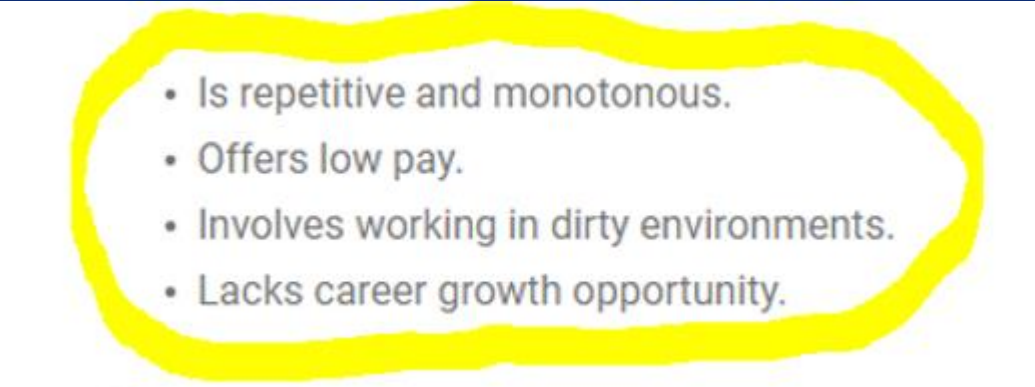
... will also hit the demand of higher qualified people for hygienic applications ...

- Frame conditions:

„Baby boomers“ will retire within the next 10 years

Replacing of the retired welders will additional be difficult because:

The image of welding in the mind of younger people

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- Is repetitive and monotonous.
 - Offers low pay.
 - Involves working in dirty environments.
 - Lacks career growth opportunity.

Countermeasures ...



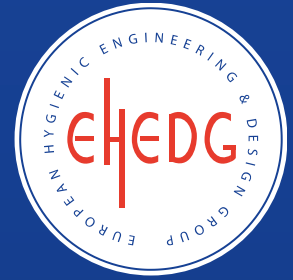
Creating a positive image of the „high qualified hygienic welder“ and machine operator!

Reduction of demands



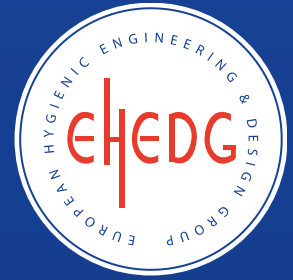
Training, training, training, ...

Challenges for today and the futur



- Document revision every three years (also Doc. 54 in 2023)
- Continious Know-how sharing with other organisations (e.g. 3-A)
- Lack of high qualified welders / shortage of welders
- High demands on training and qualification of welders and welding machine operators
- Higher alloyed materials will be introduced in hygienic applications

Interested to contribute?



... then you are welcome to work with our
EHEDG Working Group Welding

Thank you very much for your attention!