

For Pharma, Biotech and
other Life Science Industries

ASME BPE

mp ASME BPE SF1 / Mechanically polished

ep ASME BPE SF4 / Electropolished



1. SURFACES QUALITIES

Tubes and fittings:	Inner surface (mp)*
ASME BPE SF0 - on request	No finish requirements
ASME BPE SF1	Ra_{max.} ≤ 20 µin (0.51 µm) Dockweiler Standard
ASME BPE SF2 - on request	Ra _{max.} ≤ 25 µin (0.64 µm)
ASME BPE SF3 - on request	Ra _{max.} ≤ 30 µin (0.76 µm)

Tubes and fittings:	Inner surface (ep)
ASME BPE SF4	Ra_{max.} ≤ 15 µin (0.38 µm) Dockweiler Standard
ASME BPE SF5 - on request	Ra _{max.} ≤ 20 µin (0.51 µm)
ASME BPE SF6 - on request	Ra _{max.} ≤ 25 µin (0.64 µm)

Surface treatment:	<ul style="list-style-type: none"> - Mechanically polished (or any other finishing method that meets the Ra max.): Cleaning and test procedure ASTM A 632, S3 - Electropolished: Procedure acc. to Spec. Doc. 8.4-40/3.2/3.3.2 - Free of oil and grease acc. to CGA G-4.1-2018 and ASTM G93 – level B (SF4) / level C (SF1)
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2. MATERIALS

ASME BPE	UNS S31603 (316L)* UNS S31603 (316L) / 1.4404* UNS S31603 (316L) / 1.4435* * defined sulphur of 0.005 - 0.017%	UNS N08904 (904L) / 1.4539 UNS N06022 (Alloy 22) / 2.4602 UNS N08367 (AL-6XN)
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Hardness equivalent to:	<ul style="list-style-type: none"> - max. 180 HV* according to DIN EN ISO 6507-1 - max. 90 HRB* according to DIN EN ISO 6508-1 * comparable to ASTM E-384 (HV) and ASTM E 18-22 (HRB)
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3. DIMENSIONS

Imperial	acc. to ASME BPE, Part DT	
OD x WT:	1/4" to 6" (0.250 x 0.035 inch to 6.000 x 0.109 inch)	6.35 x 0.89 mm to 152.40 x 2.77 mm
Length of tubes:	min. 19.36 ft to max. 19.98 ft (6000 mm -100/+90)	
Manufacturing process:	Seamless tubes ≤ 1" OD (25.40 mm)	Welded tubes ≥ 1 1/2" OD (38.10 mm)

4. QUALITY AND TEST PROCEDURES

Verification of basic test certificate	Visual inspection	Endoscopic inspection of bright finished tubes
Verification of dimensions	Roughness measurements	

5. TECHNICAL TERMS OF DELIVERY

Tubes and fittings

Acc. to ASME BPE-2024, ASTM A 269/270, tubes with a length of 19.35 ft - 19.98 ft (5900 - 6090 mm), max. 10% short lengths of min. 9.84 ft (3000 mm). For electropolished tubes with an outer diameter ≤ 0,0164 ft (5.00 mm), the length is 9,678 ft (2950 mm) +/- 0,164 ft (50 mm).

Marking always with

DOCKWEILER / DW-Number / Dimension / Material / Heat Number / ASME Certification Mark, Surface Finish Designation

Tubes, pipes and fittings shall be permanently marked as per ASME BPE-2024, DT-11. The marking must provide all necessary information to trace back the heat number and the material grade.

6. DOCUMENTATION, PACKAGING AND SHIPPING

Documentation

The documentation result by the Dockweiler Inspection Certificate 3.1 according to DIN EN 10204. Optional online documentation WebCert.

Packaging

Mechanically polished tubes and fittings are closed with transparent PE caps and are individually sealed in PE foil. The batch label on the foil contains the information ASME BPE SF1.

Electropolished tubes and fittings are closed with PA/PE squares and yellow PE caps, sleeved and sealed in PE. The batch label on the foil contains the information ASME BPE SF4.

Shipping

Delivery in tubular container or wooden crate, fittings in strong cardboard box with shock absorbing filler.