Alloys Used in Bellows and Light Accessories Forming

Listed below are some of the materials we use for creating both our standard and custom metal bellows and expansion joints. Depending on the intended function of the product, we use different alloys that can resist different temperatures, avoid corrosion cracking, and more. Both our stainless-steel bellows and expansion joints are crafted from superior materials to give you the quality you deserve. If you have any questions or concerns about our manufacturing process or the materials used in our metal bellows, Triad Bellows' experts are here to help. Please give us a call today.

ASTM A240 T-321

- Heat resistant alloy for bellows limited to 1200° F
- Titanium stabilized grade of 300 series stainless steel
- Optimum resistance to inter-granular corrosion and stress corrosion cracking

ASTM A240 T-304/304L

- Heat resistant alloy for bellows limited to 1200° F
- Titanium stabilized grade of 300 series stainless steel
- Optimum resistance to inter-granular corrosion and stress corrosion cracking

ASTM A240 T-316/316L

- Applied to temperatures up to 1000°F
- Offered in dual certification
- Provides excellent corrosion resistance
- Alloy stabilized with molybdenum

ASTM A240 T-310

- Temperature range up to 1500°F
- Austenitic heat resistance alloy
- Excellent resistance to oxidation
- Limited availability in bellows material thickness

ASTM B-536 ALLOY 330

- Recommended up to 1500°F
- High nickel alloy
- Combination of strength and resistance to carburization
- Resistant to oxidation and thermal shock

ASTM B-168 ALLOY 600

- Inconel 600
- Operates at elevated temperatures up to 1200°F
- High nickel alloy with great carburization and oxidation resistance
- Resistant to chlorides, dry and gaseous at elevated temperatures
- Not recommended for use in extreme heat where sulfur is present

Alloys Used in Bellows and Light Accessories Forming

ASTM B-443 ALLOY 625
- Inconel 625
- Temperature resistant up to 1200ºF
- High nickel alloy with outstanding strength
- Aqueous corrosion resistance due to content of molybdenum and columbium

ASTM B-435 ALLOY X
- Hastelloy X
- Recommended for temperatures up to 1500ºF
- High nickel alloy grade with excellent strength
- Oxidation resistant

ASTM B-575 ALLOY C-276
- Hastelloy C-276
- Temperature limited to 1200ºF
- High nickel molybdenum and chromium alloy with traces of tungsten
- Excellent resistance to pitting and stress corrosion cracking
- Used for heat exchangers, ducting and marine applications

ASTM A-36
- Carbon based steel plate used for plate flanges, tie rod ears, and gussets in temperatures up to 750ºF

ASTM A-516 GR.70
- Stronger alloy steel plate with better properties than A-36 plate
- flanges and hardware up to 1000ºF

ASTM A-240
- T-304, T-316, T-321
- Stainless steel plate used for special plate flanges, gimbal hardware, etc. up to 1000ºF

ASTM A-53-E GR.B
- Carbon based steel pipe, welded and spot radiograph checked on the seam weld rated to 750ºF

ASTM A106 GR.B
- Higher grade carbon steel pipe, seamless provides weld efficiency of 100% radiographed seam rated to 750ºF

ASTM A-105
- Forged steel RFSO flanges, couplings, temperature and pressure rating varies

Alloys Used in Bellows and Light Accessories Forming

ASTM A-234 GR WPB
Pipe elbows, concentric reducers, and other non-forged carbon steel fittings

ASTM A182 F GRADES
304/304L, 316/316L
Basic stainless-steel forging, covers RFSO flanges couplings, temperature and pressure rating varies

ASTM A-312 GRADES
304/304L, 316/316L
Covers stainless steel pipes and pipe based products with temperatures up to 1000ºF

ASTM A-193 GR B7
Alloy steel threaded rod and bolts used in conjunction with restrained expansion joints

ASTM A-194 GR 2H
Alloy steel heavy duty hex nut paired with ASTM A-193 GR B7 threaded rod and bolts

ASTM A-193 GR B8
Certified stainless steel threaded rod used in conjunction with restrained expansion joints

ASTM A-194 GR 8
Certified stainless steel hex nuts paired with ASTM A-193 GR B8 threaded rod and bolts