## Material Type:
316L Stainless steel

## Dimensions:

<table>
<thead>
<tr>
<th>ASTM Tube Sizes</th>
<th>JIS Pipe Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tubing: 1/8&quot; to 6&quot;</td>
<td>Piping &amp; Fittings: 8A to 300A</td>
</tr>
<tr>
<td>Fittings: 1/4&quot; to 6&quot;</td>
<td>(13.8mm to 318.5mm)</td>
</tr>
</tbody>
</table>

## Reference Documents:
- ASTM: A 269, A 632, A 276, A 479
- ASME: B31.3
- JIS: G 3459

## Tube & Pipe Lengths:
Nominal Lengths: 20-foot, 4-meter, 6-meter

## Hardness:
60 to 90 Rb max.

## Valex Material Types:
ASTM: Single-melt, Double-melt (seamless or welded, depends on size) VOD/VAR, VIM/VAR, VAR
JIS: Single melt (seamless or welded, depends on size)

## Tolerances:
In accordance with ASTM: A 269 & A 632, JIS: G 3459

## Interior Surface Electropolished:
- I.D. Surface Roughness Options:
  - A5: 5 micro-inches Ra max.
  - A7: 7 micro-inches Ra max.
- B0: 10 micro-inches Ra max.
- C0: 10 micro-inches Ra

## O.D. Surface:
Standard outside diameter finish (may exhibit minor surface imperfections) or superior outside diameter finish as directed by customer's purchase order.

## Weld Ends:
- Tube: Square ends suitable for orbital welding
- Pipe: Square or bevel end options

## Testing & Inspection:
- Visual inspection
- Surface roughness measurement
- Helium-leak testing
- Scanning Electron Microscopy (SEM)
- Auger Electron Microscopy (AES)
- Electron Spectroscopy for Chemical Analysis (ESCA or XPS)
- Particle testing
- Moisture testing

## Marking & Traceability:
Each component is traceable to its producing mill and heat by an identification number etched within 24" (610mm) of one end.

## Labeling:
Each component's bag is affixed with a label identifying the component's part number, date and Valex lot number.

## Documentation:
A Quality Inspection Certificate is furnished with each shipment. The report contains the following information:
- Material composition & applicable specification designation
- Nominal outside diameter size
- Chemical composition
- Statement of quality assurance testing
- Inspection Certificate type 3.1 per EN 10204:2004
- Lot & heat identification for traceability

## Packaging:
All components are purged with UHP nitrogen, capped, double-bagged and packaged for shipment in such a manner, which prevents damage to product and primary product packaging.

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1 For detailed specifics regarding compliance, please consult factory.