Outstanding Performance for Precision Machining

Sapa uses advanced indirect extrusion technology and precise process control to yield a consistent, fine grain structure and uniform mechanical properties throughout the extrusion cross section for enhanced machinability. Consistent grain structure and better dimensional tolerances assure precision performance and easy-to-machine metal. High-quality turning, facing, milling and machining can be achieved easily after machining operations. ACC-U-LINE consistently produces smaller and more uniform dies.

Customers have confirmed ACC-U-LINE provides:
- Higher speeds and feed rates
- Enhanced machining efficiencies
- Improved recovery of machine parts
- Lower operating cost per part

A Complete Product Line
ACC-U-LINE is produced in a wide selection of extruded rod, bar and hex sizes and is complemented by our well-established industry brands including:

<table>
<thead>
<tr>
<th>Product</th>
<th>Diameter Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC-U-ROD*</td>
<td>0.056&quot; to 3.000&quot;</td>
</tr>
<tr>
<td>ACC-U-BAR*</td>
<td>1.000&quot; thru 8.000&quot;</td>
</tr>
<tr>
<td>ACC-U-PLATE*</td>
<td>0.250&quot; to 4.000&quot;</td>
</tr>
<tr>
<td>ACC-U-LINE*</td>
<td>8.000&quot; to 12.015&quot;</td>
</tr>
<tr>
<td>ACC-U-HEX*</td>
<td>0.056&quot; to 3.750&quot;</td>
</tr>
<tr>
<td>JUMBO-ROD*</td>
<td>10.000&quot; to 19.000&quot;</td>
</tr>
</tbody>
</table>

See individual product brochures for complete details and size charts.

For matching performance with accurate, consistent results, specify ACC-U-LINE® exclusively from Sapa Extrusions and its selected Distribution Partners.

SAP: Extrusions North America
Phone: 860.535.3198
Fax: 860.595.2587
Email: Metalmarkets.Sales@sapagroup.com
www.sapagroup.com/MA

It’s what’s inside that counts!
The Industry’s Highest Quality Rod and Bar Products

Sapa Extrusions is the established leader in machine grade quality aluminum rod and bar. Sapa products have long been recognized as the best in the industry for their enhanced properties and precision machining results.

Now, after extensive research and development, Sapa’s new extrusion line, ACC-U-LINE®, is raising the standard of excellence in performance and dependability. ACC-U-LINE represents the best and most complete line of aluminum extruded rod and bar products on the market. Our products assure next-level quality in dimensional tolerances, mechanical properties, machinability and surface finish—all backed by independent laboratory testing.

- Uniform grain structure in 6001, ACC-J-ROD®, ACC-J-BAR®, ACC-J-BAR®, and JUMBO-ROD for outstanding precision machining
- Tolerances for size, thickness, strength and level are 1/2 or closer than standard extruded tolerances
- Improved surface appearance
- Enhanced results from annealing
- ACC-U-BAR®, ACC-U-BAR® and ACC-U-HEX® are also available in 6061, 6063 and 6082 hex machining alloys in alloyed sizes

ACC-U-LINE produces smaller, cleaner microstructure bars with less extrusion porosity, improved machinability.

It’s What’s Inside That Counts!

Consistency is the core of ACC-U-LINE. Sapa Extrusions North America operates under the pressure with indirect extrusion press technology that is typically only found in Europe. Indirect extrusion reduces the frictional heat generated during extrusion, resulting in rod, bar and hex products that have more consistent grain structures, tighter dimensions and higher machinability properties.

Sapa operates indirect presses at multiple facilities including Crescora, PA and Spanish Fork, UT. Our significant investments in indirect extrusion technology allow us to offer customers some of the most advanced products in the North American market. These extrusion capabilities enable Sapa to produce an unmatched range of sizes, each with a standardized process that includes alloy chemistry, homogenizing, extrusion technology and quenching to achieve the consistency that is vital to high speed machining.

Each Sapa ACC-U-BAR®, ACC-J-BAR®, ACC-U-BAR® and ACC-U-HEX® product features a fine, uniform grain structure, ACC-U-LINE products exhibit this consistent, dependable uniformity that is unparalleled by any competitive extruded product.

Advanced Alloy Chemistry

Sapa has developed casting in Spanish Fork, UT and Crescora, PA. This capability allows Sapa to optimize alloy chemistry in extrusion manufacturing processes. Producing both standard and customized chemistries, Sapa facilities have unmatched capabilities to create uniform grains and microstructures through their advanced processing and heat-treating equipment. The result is the enhanced mechanical properties available in ACC-U-LINE products.

For example, compare higher priced cold-finished products to ACC-U-LINE:

<table>
<thead>
<tr>
<th>MECHANICAL PROPERTIES</th>
<th>Sapa ACC-U-ROD, ACC-J-BAR and ACC-U-BAR</th>
<th>COLO FINISHED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6061-7072-T61</td>
<td>6061-T61</td>
</tr>
<tr>
<td>42 ksi, min, tensile</td>
<td>42 ksi, min, tensile</td>
<td></td>
</tr>
<tr>
<td>38 ksi, min, yield</td>
<td>38 ksi, min, yield</td>
<td></td>
</tr>
</tbody>
</table>

All values are given in ksi and in accordance with specifications.
The Industry’s Highest Quality Rod and Bar Products

Sapa Extrusions is the established leader in machine grade quality aluminum rod and bar. Sapa products have long been recognized as the best in the industry for their enhanced properties and precision machining results.

Now, after extensive research and development, Sapa’s new 6061-ROD® ACC-U-LINE® is setting the standard of excellence in performance and dependability. ACC-U-LINE represents the best and most complete line of aluminum extruded rod, bar and wire products on the market. Our products assure near-near quality in dimensional tolerances, mechanical properties, machinability and surface finish - all backed by independent laboratory testing.

- Uniform grain structure in 6061-ACC-U-ROD®, ACC-U-BAR®, ACC-U-BAR®+, ACC-U-HEX® and JUMBO-ROD® for outstanding precision machining
- Tolerances for size, dimensions, straightness and flatness are ±0.002 or better than standard extruded tolerances
- Improved surface appearance
- Enhanced results from annealing

ACC-U-ROD®, ACC-U-BAR® and ACC-U-HEX® are also available in 6060, 6063 and 6056 hot-machining alloys in sized sizes.

ACC-U-LINE produces smaller, more monocrystalline grains with less intersticking providing improved machinability.

Consistency is the core of ACC-U-LINE. Sapa Extrusions North America operates more presses with indirect extrusion press technology than any other cold alloy extruder in North America. Indirect extrusion reduces the frictional heat generated during extrusion, resulting in rod, bar and wire products that have more consistent grain structure, tighter dimensions and higher mechanical properties.

Sapa operates indirect presses at multiple facilities including Owensboro, KY and Spanish Fork, UT. Our significant investments in indirect extrusion technology allow us to offer customers some of the most advanced products in the North American market. These advanced extrusion capabilities enable Sapa to produce an unrivaled range of sizes, each with a standardized process that includes alloy chemistry, homogenizing extrusion technology and quenching to achieve the consistency that is vital to high speed machining.

Each Sapa ACC-U-ROD®, ACC-U-BAR®, ACC-U-BAR®+ and ACC-U-HEX® 6061-ROD® product features a fine, uniform grain structure, ACC-U-LINE products exhibit this consistency, dependability and uniformity that is unsurpassed by any competing extruded product.

Advanced Alloy Chemistry

Sapa has invested in the Spanish Fork, UT and Owensboro, KY facilities to optimize alloy chemistry to extrude machining performance. Producing both standard and customized chemistries, Sapa Extrusions has monocrystalline capabilities to create uniform grain and microstructures through their advanced processing and heat-treating equipment. The result is the enhanced machinability properties available in ACC-U-LINE products.

For example, compare higher priced cold finished products to ACC-U-LINE:

<table>
<thead>
<tr>
<th>MECHANICAL PROPERTIES</th>
<th>Sapa ACC-U-ROD, ACC-U-BAR and ACC-U-BAR+ 6061-T651</th>
<th>COLD FINISHED 6061-T651</th>
</tr>
</thead>
<tbody>
<tr>
<td>42 ksi, min, tensile</td>
<td>42 ksi, min, tensile</td>
<td></td>
</tr>
<tr>
<td>30 ksi, min, yield</td>
<td>35 ksi, min, yield</td>
<td></td>
</tr>
</tbody>
</table>

All values are negotiated strengths or capabilities.