Sometimes all it takes is a simple change in material to help a customer uncover cost savings. In the case of an ATV manufacturer, we recommended an alternative material which provided similar mechanical properties as a high-strength, low-alloy steel without the grade extra. The material provides the added benefits of improved reliability, repeatability, weld integrity, and less variation from heat to heat. Result: improved bending, formability, fabrication, and throughput, as well as a 5% material savings.
C1009 TUBING

Product Description

PRODUCT OVERVIEW
AK Tube’s C1009 is a cost savings alternative to high-strength low-alloy steel tubing. AK Tube’s C1009 is supplied to a 50 ksi. minimum yield strength and 62 ksi. minimum tensile strength.

BENEFITS OF C1009
• High-strength
• High elongation compared to either an HSLA, C1020 or C1021
• Formability
• Gauge control (typically less than 0.004 in. spread)
• Reliability and repeatability during fabrication
• Consistent formability from heat to heat

POTENTIAL APPLICATIONS WITH C1009
• Alternative to conventional high-strength low-alloy steel (HSLAS) tubing
• ATV frame tubing
• Handrail for agricultural equipment
• Hospital bed frames
• An alternative to HSLA Grade 50 for hydroforming
• Where high-strength and ductility are required
• Alternative for some Drawn Over Mandrel (DOM) applications

TABLE 1 – TYPICAL MECHANICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th>(wt %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon (C)</td>
<td>0.05 – 0.065</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>0.60 – 0.90</td>
</tr>
<tr>
<td>Phosphorous (P)</td>
<td>0.015 max.</td>
</tr>
<tr>
<td>Sulfur (S)</td>
<td>0.015 max.</td>
</tr>
</tbody>
</table>

PRODUCT AVAILABILITY
Available in 0.75 – 6 in. OD and 20 – 11 gauge (0.035 – 0.120 in.).

SPECIFICATIONS
Product may be manufactured to either ASTM A500 or ASTM A513 Type 1 specifications. For any specifications not listed here, please contact your AK Tube sales representative.

TECHNICAL ASSISTANCE
For additional information or to obtain samples of this product, contact our Technical Service Department at 800.955.8031 or at sales@aktube.com.
AK Steel is a leading producer of flat-rolled carbon, stainless and electrical steel products, primarily for the automotive, infrastructure and manufacturing, electrical power generation and distribution markets. Through its subsidiaries, the company also provides customer solutions through carbon and stainless steel tubing products, die design and tooling, and hot and cold stamping. Headquartered in West Chester, Ohio (Greater Cincinnati), the company employs approximately 9,200 men and women at manufacturing operations across seven states (Alabama, Indiana, Kentucky, Michigan, Ohio, Pennsylvania, and West Virginia), as well as Canada and Mexico. Additional information about AK Steel is available at www.aksteel.com.

The information and data in this document are accurate to the best of our knowledge and belief, but are intended for general information only. Applications suggested for the materials are described only to help readers make their own evaluations and decisions, and are neither guarantees nor to be construed as express or implied warranties of suitability for these or other applications.

Data referring to material properties are the result of tests performed on specimens obtained from specific locations of the products in accordance with prescribed sampling procedures; any warranty thereof is limited to the values obtained at such locations and by such procedures. There is no warranty with respect to values of the materials at other locations.