EFFICIENT AND MORE SUSTAINABLE AGRICULTURE WITH STRENX® TUBES

Strenx® performance steel can make your products stronger, lighter, safer, more competitive and more sustainable. We call it performance steel, because it adds performance beyond ordinary structural steel.

LOWER WEIGHT IN SPRAY BOOMS LEADS TO MANY ADVANTAGES:
- wider booms = improved productivity measured as speed in the field, even 60 cm longer booms on each side can shorten spray time in the field by 20%
- reduced risk of boom oscillating, better shock absorbing: allows faster speed in the field, improved spraying precision and reduced consumption of spray chemicals
- minimized crop damage and less soil compaction
- less load and wear on entire boom structure: longer life time
- less fuel consumption

strenx.com
Strenx® Tube 700MLH is an HF-welded cold-formed structural hollow section made of hot-rolled high-strength steel with minimum yield strength of 700 MPa. Its high strength combined with naturally stiff form of welded hollow section enables construction of stronger and lighter structures.

When upgrading from mild steel to Strenx® 700 steel a rule of thumb for new steel thickness is:

$$ t_{HS} = t_{MS} \sqrt{\frac{R_{e, MS}}{R_{e, HS}}} $$

**WHERE:**
- $t_{HS}$ is the new thickness in High Strength Steel
- $t_{MS}$ is the old thickness in Mild Steel
- $R_{e, MS}$ is the yield strength for Mild Steel
- $R_{e, HS}$ is the yield strength for High Strength Steel

**SOME SUITABLE TUBE DIMENSIONS FOR UPGRADING SPRAY BOOMS:**

<table>
<thead>
<tr>
<th>Profile</th>
<th>Diameter, mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circular</td>
<td>42.4, 48.3, 60.3</td>
</tr>
<tr>
<td>Square</td>
<td>40x40, 50x50, 60x60</td>
</tr>
<tr>
<td>Rectangular</td>
<td>50x30, 60x40</td>
</tr>
<tr>
<td>Wall thickness, mm</td>
<td>2.0, 2.5, 3.0</td>
</tr>
<tr>
<td>Mill length, mm</td>
<td>6 000 – 12 000</td>
</tr>
</tbody>
</table>

*Other sizes and lengths are available upon request.*

**THE BENEFITS OF STRENX® TUBE 700MLH**
- Higher specific strength than high grade aluminum
- Better weight efficiency
- Lower material costs than aluminum or carbon fiber
- Weldable with conventional welding methods, easier to repair than other materials
- Less environmental impact in whole lifecycle than aluminum
- Steel is 100% recyclable
- Tougher when it’s needed most in low temperature
- Natural stiffness of hollow section
- Different cross-section profiles possible thanks to its adaptability and workability

**CASE SUMMARY:**
A European manufacturer upgraded their sprayer booms from mild steel to Strenx® Tube 700MLH. The old design used tube dimensions 30x30x3 mm and 40x40x4 mm, while with Strenx® Tube 700MLH the same mechanical stability was possible to reach with 30x30x2 mm and 40x40x2.5 mm. The total weight saving which was achieved was 27%!

**STRENX® TUBE 700MLH MECHANICAL PROPERTIES**

- Yield strength $R_{p0.2}$, min [MPa]: 700
- Elongation $A_{5}$, min %: 10
- CET/CEV, typical: 0.24/0.38
- Impact toughness [J] at – 50˚C: 27

For all available tube sizes contact your local SSAB salesperson or check Strenx® Tube 700MLH at: [www.ssab.com](http://www.ssab.com)