

HSS

# HOLLOW STRUCTURAL SECTIONS

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**CASE STUDY:**  
**OEM**

Landoll Agricultural Equipment







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**LANDOLL  
MANUFACTURES  
TILLAGE EQUIPMENT,  
INCLUDING A  
COMPLETE LINE  
OF RIPPERS AND  
DISC TILLERS, AND  
VIRTUALLY ALL OF  
THEM ARE BUILT  
USING HSS TUBING.**

There's one indisputable fact about farming: it's a tough, demanding business. So when farmers want to become more productive, they often turn to Landoll Corporation of Marysville, Kansas.

#### **FROM BLACKSMITH SHOP TO DESIGN AND CONSTRUCTION**

Landoll began life as a welding, radiator from the beginning, they wanted to design and manufacture their own products. By 1968, they'd developed their first branded items: a slip-in livestock rack for pickup trucks, and a chisel plow for farming. Today, Landoll is a supplier of a huge variety of farm tillage equipment and trailers for agriculture and military use ... and a big part of the company's reputation for tough, reliable machines stems from its use of HSS square and rectangular tubing.

Jamie Meier, a Landoll Sales Manager, said, "We use a lot of HSS – 3"x4", 4"x4", 5" x4", 6"x6" and so forth -- to build the frames and support columns of our tilling equipment. In fact, we use it wherever we can."

Landoll Production Engineer, Allan Gengler added, "Typically, we use HSS tubing in grade ASTM 500. This gives us a lot of strength and flexibility. In fact, there are a lot of advantages to it, like being able to install longer or taller sections wherever they're necessary." According to Gengler, most of HSS used for tilling equipment frames ranges from 1/4" to 3/8" wall-thickness, though occasionally, they'll use HSS up to 1/2".



## TOUGH STEEL FOR DEEP CUTS

Some of Landoll's more robust tilling equipment is designed to till soil to depths up to 18". Obviously, this requires a tough, rigid material, and HSS fills the bill nicely. Says Gengler, "One of the advantages of using HSS is its torsional strength; the frames and shanks won't twist or rack while they're breaking up the soil. And because the HSS tubes are rectangular, it's easier to attach a shank to them. HSS is easy to work with during fabrication, too: we can clamp, weld, saw and/or drill it. Then, we have a paint system with a five-stage wash, after which we powder-coat it."

## EASY TO SHIP, EASY TO ASSEMBLE

Several of Landoll machines are as much as 36' wide, but thanks to their HSS tubular construction, they're easy to disassemble, ship by truck, then re-assemble in the field. And with a huge network of farm equipment dealers across the country, Landoll has a built-in resource for that on-site assembly. "These machines are designed to be re-assembled without welding," says Gengler. "We do all the welding necessary at the factory, and our distributors simply have to assemble the equipment with mechanical fasteners."

Landoll makes dozens of different machines - everything from an inline ripper that weighs just 2,000 pounds to a disc harrow that weighs 20,000 pounds. Though each is designed for a specific job, they all have one thing in common: the reliability and strength that are the inherent qualities of HSS tubing.

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