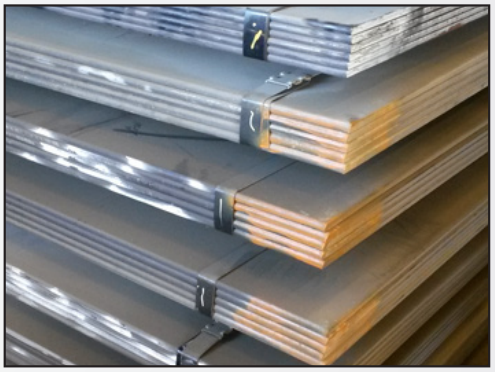
Stacked Plates: Opening Drill®

The customer manufactures steel lift arms for the heavy equipment industry. The customer purchased two new horizontal boring machines in order to produce these parts. Both machines use a single point bore with coated cermet for finish diameters. The work pieces are stacked plates made of A36. They use 430 PSI *(29.647 bar)* and synthetic coolant with additives. There were five hole diameters and depths in this complex operation.

The **Opening Drill®** effectively reduced cycle time and increased tool life, accomplishing the customer's goals for this operation.



Product: Opening Drill®
Objective: Decrease cycle time
Industry: Heavy equipment
Part: Stacked plates
Material: A36
Hole Ø: 4.00" *(101.6 mm)*
Hole Depth: 3.07" *(77.978 mm)*

Measure	Competitor Boring Bars		Opening Drill®
	First Pass	Second Pass	
RPM	528	790	288
Speed	430 SFM *(131.064 M/min)*	715 SFM *(217.932 M/min)*	300 SFM *(91.44 M/min)*
Feed Rate	0.015 IPR *(0.381 mm/rev)*	0.012 IPR *(0.305 mm/rev)*	0.006 IPR *(0.152 mm/rev)*
Cycle Time	4 min		2 min 18 sec
Tool Life	20 min		30 min

▸ Opening Drill®
Holder: ***OP3-1S-CV50***

50% tool life increase

The Opening Drill® provided:

- ✓ Decreased cycle time
- ✓ Increased tool life
- ✓ Eliminated need for multiple passes