HYPERTHERM®
A Hypertherm Associates Brand

Flush cutting with Powermax® plasma systems

Cutting closer just got easier

The FlushCut™ process for select Powermax systems provides users with the ability to cut closer to base materials than ever before.

Reduce time consuming and costly grinding

Close cutting for the removal of lugs and other attachments has typically been performed via oxyfuel cutting or carbon arc gouging, followed by labor intensive grinding. FlushCut for Powermax plasma systems provides a new, more efficient process for challenging removal applications.

The patented consumable design for FlushCut features an angled nozzle bore design which delivers the plasma arc at a 45 degree angle – essentially bending the plasma arc. This unique design gives Powermax users the ability to cut closer or more flush to the base than ever before which significantly reduces grinding and increases the opportunity to reuse pad eyes, attachments and other temporary weld supports.

Advantages of the Powermax® FlushCut™ process vs. oxyfuel cutting and carbon arc gouging in close or flush cutting applications

FlushCut vs. oxyfuel cutting

The Heat Affected Zone (HAZ) associated with FlushCut is significantly smaller than the HAZ associated with oxyfuel which allows for a closer cut and less grinding.

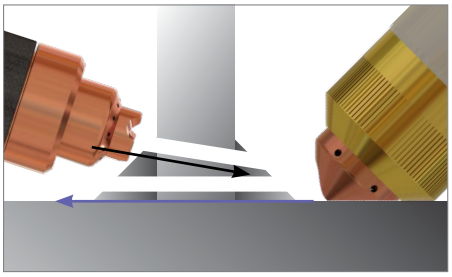
Because of the HAZ associated with oxyfuel, operators have to cut higher on the lug or attachment which reduces the chances of reuse.

FlushCut vs. carbon arc gouging

When carbon arc gouging a lug or attachment, a minimum of two passes are needed for removal compared to the FlushCut process which requires only a single pass.

The carbon arc gouging process is more likely to dig into the workpiece, which requires costly and time consuming repair work.

Standard FlushCut



Non-optimal angle for cutting Optimal angle for cutting

FlushCut consumables

For Powermax systems with Duramax® Lock, Duramax, and Duramax Hyamp™ series torches

System	Operating amperages	Torch series*	Retaining ring	Retaining cap	Nozzle / Shield	Swirl ring	Electrode	FlushCut starter kit
Powermax45 XP**	30–45 A	Duramax, Duramax Lock	420540	420536	420633	420634	420635	428746
Powermax105	85–105 A	Duramax	420540	420536	420533	420539	220842	428647
Powermax125	85–125 A	Duramax Hyamp	420485	420490	420489	420484	420553	428713

*FlushCut consumables are not compatible with Duramax RT torches.
**Using the 45 A FlushCut consumables above 45 amps on the Powermax65/85/105 will cause premature consumable damage.

When using FlushCut consumables, operators can expect to leave less than 5 mm of material on the workpiece after the removal of a lug, attachment or pad eye.

After the attachment is removed, operators can reduce the amperage on the system and wash any remaining material away without digging into the workpiece. FlushCut washing further reduces the need for grinding.

FlushCut cartridges

For Powermax SYNC® systems with SmartSYNC® torch, and Duramax torches with adapter

System	Operating amperages	Torch series	Part number
Powermax65/85/105 SYNC	65	SmartSYNC	428952
	85		428953
	105		428954
Powermax65	65	Duramax with adapter	428952
Powermax85	85		428953
Powermax105	105		428954

Scan this code to learn more about FlushCut or visit: www.hypertherm.com/FlushCut

Hypertherm, FlushCut, Hyamp, Powermax, and Duramax are trademarks of Hypertherm Inc. and may be registered in the United States and/or other countries. All other trademarks are the properties of their respective owners.

Please visit www.hypertherm.com/patents for more details about Hypertherm Associates patent numbers and types.

© 4/2023 Hypertherm Inc. Revision 5
89727D

HYPERTHERM ASSOCIATES™

As 100% Associate owners, we are all focused on delivering a superior customer experience. www.hyperthermassociates.com/ownership

Environmental stewardship is one of Hypertherm Associates' core values. www.hyperthermassociates.com/environment

100% Associate-owned Greener Cuts™