



# Mild steel process selection

For XPR™ and HyPerformance® HPR400® XD

Expected quality/speed results in inches per minute (ipm)

Thickness (inches)	XPR							HPR
	O <sub>2</sub> /O <sub>2</sub>	O <sub>2</sub> /Air						O <sub>2</sub> /Air
	30 A	50 A	80 A	130 A	170 A	220 A	300 A	400 A
26 GA	215							
24 GA	200							
22 GA	170							
20 GA	155							
18 GA	110							
16 GA	85							
14 GA	60							
12 GA	50	155	225					
1/8	43	148	217					
10 GA	40	145	180	240				
3/16	30	95	155	190	230			
1/4		70	110	150	200	240		
5/16		55	96	130	170	-		
3/8			75	110	140	150	180	
7/16			62	95	127	-	-	
1/2			55	80	115	125	155*	170
9/16				70	97	125	140*	-
5/8				60	80	110	130	150
3/4				45	65	85	105	115
7/8				32	55	75	90	100
1				20	45	60	75	85
1-1/8				18	37	50	65	-
1-1/4				16	30	40	55	65
1-3/8				12	25	35	47	-
1-1/2				10	20+	30	40	48
1-9/16					17+	-	-	-
1-5/8					17	25	35	-
1-3/4					14	20	30*	40
1-7/8					12	15	25*	-
2					10	12	21*+	30
2-1/8					-	9	18*	-
2-1/4					-	8	17*	25
2-3/8					6	7	15*	-
2-1/2						6	14*	20
2-5/8							12*	-
2-3/4							10*	-
2-7/8							8*	-
3							7*	10

XPR	HPR
Category 3	Non PCT
Category 1	PCT
Category 2	Edge start
Category 4	
Category 5	

\* N<sub>2</sub> used as shield gas

+ Argon assist

Our cutting systems offer a wide variety of process options to meet your requirements.

Hypertherm process engineers work to optimize a range of thicknesses to obtain the best overall balance of productivity and cut quality. This optimized range is called the Process Core Thicknesses (PCT).

## Process category options and expected quality-speed results for ferrous (mild steel) processes

XPR category		Description	Quality	Speed
Number	Condition			
■	1	Process Core Thickness (PCT) <ul style="list-style-type: none"> <li>▪ Best overall balance of productivity and cut quality</li> <li>▪ The process is optimized for this thickness</li> <li>▪ Virtually dross free</li> </ul>	Very good	Very good
■	2	Thicker than PCT <ul style="list-style-type: none"> <li>▪ Good choice when edge quality is more important than speed</li> <li>▪ Some low-speed dross</li> </ul>	Very good to excellent	Lower
■	3	Thinner than PCT <ul style="list-style-type: none"> <li>▪ Good choice when speed is more important than cut edge quality</li> <li>▪ Virtually dross free</li> </ul>	Lower	Higher
■	4	Edge start for most processes <ul style="list-style-type: none"> <li>▪ Edge start is required with the exception of argon assist processes</li> <li>▪ Thick, low-speed dross is likely</li> </ul>	Good	Low
■	5	Severance <ul style="list-style-type: none"> <li>▪ Maximum thickness for these processes</li> <li>▪ Edge start required</li> <li>▪ Cut speeds are very slow, in most cases expect less than 10 in/min</li> <li>▪ Cut edge quality can be rough</li> <li>▪ Significant dross</li> <li>▪ Thick-metal cutting technologies can be necessary</li> </ul>	Very low	Very low

Pierce settings in the cut charts are based on standard-position torch angles (at a 90° angle to the workpiece)

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