Recommended Cutting Data

GEN3SYS® XT Pro (XT ST)

Metric (mm)

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant AM420 Speed	Feed Rate (mm/rev) by Diameter 12 series 12.00 - 12.99	13 series 13.00 - 13.99	14 series 14.00 - 14.99	15 series 15.00 - 15.99
P	**Structural Steel** A36, A285, A516, A572, etc.	100 - 150	107	0.20	0.22	0.25	0.25
		150 - 250	91	0.18	0.20	0.23	0.23
		250 - 350	79	0.15	0.17	0.20	0.20

Imperial (inch)

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM420 Speed	Feed Rate (IPR) by Diameter 12 series 0.4724 - 0.5117	13 series 0.5118 - 0.5511	14 series 0.5512 - 0.5905	15 series 0.5906 - 0.6298
P	**Structural Steel** A36, A285, A516, A572, etc.	100 - 150	350	0.008	0.009	0.010	0.010
		150 - 250	300	0.007	0.008	0.009	0.009
		250 - 350	260	0.006	0.007	0.008	0.008

Speed and Feed Multiplier

	Depth of Cut <= 1.5xD	> 1.5xD
Speed	See above chart	0.75
Feed	See above chart	0.90

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance.
NOTE: If drilling material thickness of 0.500" (12.7mm) or less, a minimum of 10% reduction in feed is required to minimize material deflection.

Feed Rate (mm/rev) by Diameter								
16 series 16.00 - 16.99	**17 series 17.00 - 17.99**	**18 series 18.00 - 19.99**	**20 series 20.00 - 21.99**	**22 series 22.00 - 23.99**	**24 series 24.00 - 25.99**	**26 series 26.00 - 28.99**	**29 series 29.00 - 31.99**	**32 series 32.00 - 35.00**
0.30	0.30	0.36	0.38	0.41	0.43	0.46	0.48	0.48
0.25	0.25	0.30	0.36	0.38	0.41	0.43	0.46	0.46
0.23	0.23	0.28	0.30	0.33	0.36	0.38	0.41	0.41

Feed Rate (IPR) by Diameter								
16 series 0.6299 - 0.6692	**17 series 0.6693 - 0.7086**	**18 series 0.7087 - 0.7873**	**20 series 0.7874 - 0.8660**	**22 series 0.8661 - 0.9448**	**24 series 0.9449 - 1.0235**	**26 series 1.0236 - 1.1416**	**29 series 1.1417 - 1.2597**	**32 series 1.2598 - 1.3780**
0.012	0.012	0.014	0.015	0.016	0.017	0.018	0.019	0.019
0.010	0.010	0.012	0.014	0.015	0.016	0.017	0.018	0.018
0.009	0.009	0.011	0.012	0.013	0.014	0.015	0.016	0.016

Recommended Cutting Data | Metric (mm)

Original T-A® | GEN2 T-A®

Thin Wall Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant AM200 Speed	Speed (M/mm) - Mist Coolant TiAlN Speed	Feed Rate (mm/rev) by Diameter 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	39	34	0.30	0.45	0.48	0.50
		150 - 250	35	31	0.28	0.40	0.43	0.48
		250 - 350	32	28	0.25	0.36	0.40	0.45

Notch Point® and 150° Structural Steel Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant AM200 Speed	Speed (M/mm) - Mist Coolant TiAlN Speed	Feed Rate (mm/rev) by Diameter 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	39	34	0.25	0.30	0.36	0.45
		150 - 250	35	31	0.23	0.28	0.30	0.40
		250 - 350	35	28	0.20	0.25	0.28	0.36

GEN2 T-A Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant AM200 Speed	Feed Rate (mm/rev) by Diameter 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	39	0.25	0.30	0.36	0.46
		150 - 250	35	0.23	0.28	0.30	0.40
		250 - 350	35	0.20	0.25	0.28	0.36

GEN2 T-A Inserts
Carbide C1 (K35)

ISO	Material	Hardness (BHN)	Speed (M/mm) - Mist Coolant AM200 Speed	Feed Rate (mm/rev) by Diameter 0 series 14 - 16	1 series 18 - 24	2 series 25 - 35	3 series 36 - 47
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	50	0.20	0.28	0.38	0.43
		150 - 250	47	0.15	0.25	0.33	0.38
		250 - 350	43	0.13	0.23	0.30	0.33

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance.

Recommended Cutting Data | Imperial (inch)

Original T-A® | GEN2 T-A®

Thin Wall Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Speed (SFM) - Mist Coolant TiAlN Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	110	0.012	0.018	0.019	0.020
		150 - 250	115	100	0.011	0.016	0.017	0.019
		250 - 350	105	90	0.010	0.014	0.016	0.018

Notch Point® and 150° Structural Steel Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Speed (SFM) - Mist Coolant TiAlN Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	110	0.010	0.012	0.014	0.018
		150 - 250	115	100	0.009	0.011	0.012	0.016
		250 - 350	105	90	0.008	0.010	0.011	0.014

GEN2 T-A Inserts
Super Cobalt

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	125	0.010	0.012	0.014	0.018
		150 - 250	115	0.009	0.011	0.012	0.016
		250 - 350	105	0.008	0.010	0.011	0.014

GEN2 T-A Inserts
Carbide C1 (K35)

ISO	Material	Hardness (BHN)	Speed (SFM) - Mist Coolant AM200 Speed	Feed Rate (IPR) by Diameter 0 series 9/16 - 11/16	1 series 13/16 - 15/16	2 series 1 - 1-3/8	3 series 1-13/32 - 1-7/8
P	**Structural Steel** A36, A285, A516, etc.	100 - 150	165	0.008	0.011	0.015	0.017
		150 - 250	155	0.006	0.010	0.013	0.015
		250 - 350	140	0.005	0.009	0.012	0.013

NOTE: The speeds and feeds listed above are based on a rigid setup using air mist through tool coolant. Speed may be increased up to 50% if using high pressure flood or through coolant.
NOTE: If drilling dry without coolant, speed must be reduced significantly based on setup, drill depth, and material hardness. Up to 50% speed and feed reduction may be necessary in these types of applications. Contact the Application Engineering department for assistance.