

## Standard of Depth of Cut (External Threading)

### EXTERNAL (RADIAL INFEEED)

#### ISO Metric

(mm)

Pitch (mm)	Total Cutting Depth	Number of Passes														Insert Type		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	G-class ground inserts	M-class inserts with 3-D chip breakers	
0.5	0.31	0.10	0.08	0.07	0.06												MMT16ER050ISO	-
0.75	0.46	0.16	0.14	0.10	0.06												MMT16ER075ISO	-
1.0	0.61	0.18	0.15	0.12	0.10	0.06											MMT16ER100ISO	MMT16ER100ISO-S
1.25	0.77	0.19	0.17	0.14	0.11	0.10	0.06										MMT16ER125ISO	MMT16ER125ISO-S
1.5	0.92	0.22	0.21	0.17	0.14	0.12	0.06										MMT16ER150ISO	MMT16ER150ISO-S
1.75	1.07	0.22	0.21	0.16	0.13	0.11	0.09	0.09	0.06								MMT16ER175ISO	MMT16ER175ISO-S
2.0	1.23	0.24	0.23	0.17	0.16	0.14	0.12	0.11	0.06								MMT16ER200ISO	MMT16ER200ISO-S
2.5	1.53	0.26	0.23	0.19	0.17	0.15	0.13	0.12	0.11	0.11	0.06						MMT16ER250ISO	MMT16ER250ISO-S
3.0	1.84	0.27	0.25	0.20	0.18	0.16	0.14	0.13	0.12	0.12	0.11	0.10	0.06				MMT16ER300ISO	MMT16ER300ISO-S
3.5	2.15	0.33	0.30	0.24	0.21	0.18	0.17	0.15	0.14	0.14	0.12	0.11	0.06				MMT22ER350ISO	-
4.0	2.45	0.34	0.31	0.24	0.22	0.19	0.17	0.16	0.14	0.14	0.13	0.12	0.12	0.11	0.06		MMT22ER400ISO	-
4.5	2.76	0.38	0.34	0.28	0.24	0.22	0.20	0.18	0.16	0.16	0.15	0.14	0.13	0.12	0.06		MMT22ER450ISO	-
5.0	3.07	0.42	0.38	0.32	0.27	0.24	0.22	0.20	0.18	0.18	0.17	0.16	0.15	0.12	0.06		MMT22ER500ISO	-

#### American UN

(inch)

Pitch (thread/inch)	Total Cutting Depth	Number of Passes														Insert Type		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	G-class ground inserts	M-class inserts with 3-D chip breakers	
32	.019	.007	.006	.004	.002												MMT16ER320UN	-
28	.022	.007	.006	.004	.003	.002											MMT16ER280UN	-
24	.026	.007	.006	.006	.005	.002											MMT16ER240UN	-
20	.031	.008	.007	.005	.005	.004	.002										MMT16ER200UN	-
18	.034	.009	.008	.006	.005	.004	.002										MMT16ER180UN	-
16	.038	.009	.008	.006	.005	.004	.004	.002									MMT16ER160UN	MMT16ER160UN-S
14	.044	.009	.008	.006	.005	.005	.005	.004	.002								MMT16ER140UN	MMT16ER140UN-S
13	.047	.010	.009	.007	.006	.005	.005	.003	.002								MMT16ER130UN	-
12	.051	.011	.009	.007	.006	.006	.005	.005	.002								MMT16ER120UN	MMT16ER120UN-S
11	.056	.011	.009	.007	.006	.006	.006	.005	.004	.002							MMT16ER110UN	-
10	.061	.011	.009	.007	.006	.006	.006	.005	.005	.004	.002						MMT16ER100UN	-
9	.068	.013	.011	.009	.007	.006	.006	.005	.005	.004	.002						MMT16ER090UN	-
8	.077	.014	.012	.009	.007	.006	.006	.006	.006	.005	.004	.002					MMT16ER080UN	-
7	.087	.015	.013	.011	.009	.008	.007	.006	.006	.005	.005	.002					MMT22ER070UN	-
6	.102	.017	.014	.011	.010	.008	.007	.007	.006	.006	.005	.005	.004	.002			MMT22ER060UN	-
5	.123	.017	.015	.012	.011	.009	.009	.008	.007	.007	.007	.007	.006	.006	.002		MMT22ER050UN	-

#### Whitworth for BSW, BSP

(inch)

Pitch (thread/inch)	Total Cutting Depth	Number of Passes														Insert Type		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	G-class ground inserts	M-class inserts with 3-D chip breakers	
28	.023	.007	.006	.004	.004	.002											MMT16ER280W	-
26	.025	.007	.006	.005	.005	.002											MMT16ER260W	-
20	.032	.008	.007	.006	.005	.004	.002										MMT16ER200W	-
19	.034	.008	.007	.006	.006	.005	.002										MMT16ER190W	MMT16ER190W-S
18	.035	.010	.007	.006	.005	.005	.002										MMT16ER180W	-
16	.040	.008	.007	.006	.005	.004	.004	.004	.002								MMT16ER160W	-
14	.046	.009	.008	.007	.006	.005	.005	.004	.002								MMT16ER140W	MMT16ER140W-S
12	.054	.011	.010	.008	.006	.006	.006	.005	.002								MMT16ER120W	-
11	.058	.011	.009	.008	.007	.006	.006	.005	.005	.002							MMT16ER110W	MMT16ER110W-S
10	.064	.011	.010	.008	.007	.006	.006	.005	.005	.004	.002						MMT16ER100W	-
9	.071	.011	.010	.008	.007	.006	.006	.006	.005	.005	.005	.002					MMT16ER090W	-
8	.080	.012	.011	.009	.007	.007	.006	.006	.006	.005	.005	.004	.002				MMT16ER080W	-
7	.091	.013	.013	.010	.009	.008	.007	.007	.006	.006	.006	.004	.002				MMT22ER070W	-
6	.107	.014	.013	.011	.009	.008	.008	.007	.007	.006	.006	.006	.005	.005	.002		MMT22ER060W	-
5	.128	.017	.016	.014	.011	.010	.009	.009	.008	.007	.007	.007	.006	.005	.002		MMT22ER050W	-

- (Note) · Set the finishing allowance on a diameter at approx. .004 inch when using a full form insert.  
 · Please note the cutting depth and the number of passes when a nose radius of a partial or semi-full form insert or of an internal threading insert is small to prevent damage to the insert nose.  
 · Please set the cutting depth sufficiently deep enough on materials such as hardened steel or austenitic stainless steel to help prevent premature wear and chipping caused by the outer layer of the material.

# THREADING

## Standard of Depth of Cut (External Threading)

### EXTERNAL (RADIAL INFEEED)

#### BSPT

(inch)

Pitch (thread/inch)	Total Cutting Depth	Number of Passes											Insert Type					
		1	2	3	4	5	6	7	8	9				G-class ground inserts	M-class inserts with 3-D chip breakers			
28	.023	.007	.006	.004	.004	.002											MMT16ER280BSPT	—
19	.034	.009	.007	.006	.005	.005	.002										MMT16ER190BSPT	MMT16ER190BSPT-S
14	.046	.009	.008	.007	.006	.005	.005	.004	.002								MMT16ER140BSPT	MMT16ER140BSPT-S
11	.058	.010	.009	.008	.007	.006	.006	.005	.005	.002							MMT16ER110BSPT	MMT16ER110BSPT-S

#### Round DIN 405

(inch)

Pitch (thread/inch)	Total Cutting Depth	Number of Passes														Insert Type		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14		G-class ground inserts	
10	.050	.009	.008	.008	.007	.006	.005	.005	.002									MMT16ER100RD
8	.063	.009	.008	.008	.007	.007	.006	.006	.005	.005	.002							MMT16ER080RD
6	.083	.010	.010	.009	.009	.008	.007	.007	.006	.006	.005	.004	.002					MMT16ER060RD
4	.125	.013	.013	.013	.012	.011	.010	.009	.009	.008	.007	.007	.006	.005	.002			MMT22ER040RD

#### ISO Trapezoidal 30°

(mm)

Pitch (mm)	Total Cutting Depth	Number of Passes														Insert Type		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14		G-class ground inserts	
1.5	0.90	0.23	0.21	0.16	0.13	0.11	0.06											MMT16ER150TR
2.0	1.25	0.29	0.26	0.21	0.17	0.14	0.12	0.06										MMT16ER200TR
3.0	1.75	0.32	0.31	0.24	0.19	0.18	0.17	0.15	0.13	0.06								MMT16ER300TR
4.0	2.25	0.33	0.32	0.24	0.22	0.21	0.17	0.16	0.15	0.14	0.13	0.12	0.06					MMT22ER400TR
5.0	2.75	0.35	0.32	0.26	0.24	0.22	0.21	0.19	0.19	0.17	0.15	0.14	0.13	0.12	0.06			MMT22ER500TR

#### American ACME

(inch)

Pitch (thread/inch)	Total Cutting Depth	Number of Passes														Insert Type		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14		G-class ground inserts	
12	.047	.011	.009	.008	.007	.006	.004	.002										MMT16ER120ACME
10	.060	.011	.010	.008	.007	.006	.006	.005	.005	.002								MMT16ER100ACME
8	.072	.012	.010	.009	.007	.006	.006	.006	.005	.005	.004	.002						MMT16ER080ACME
6	.093	.013	.012	.011	.009	.008	.007	.006	.006	.005	.005	.004	.005	.002				MMT22ER060ACME
5	.110	.014	.013	.012	.010	.009	.008	.007	.007	.006	.006	.006	.005	.005	.002			MMT22ER050ACME

#### UNJ

(inch)

Pitch (thread/inch)	Total Cutting Depth	Number of Passes														Insert Type		
		1	2	3	4	5	6	7	8	9	10	11					G-class ground inserts	
32	.018	.006	.006	.004	.002													MMT16ER320UNJ
28	.020	.006	.005	.004	.003	.002												MMT16ER280UNJ
24	.024	.007	.006	.006	.003	.002												MMT16ER240UNJ
20	.029	.007	.006	.005	.005	.004	.002											MMT16ER200UNJ
18	.032	.009	.007	.006	.004	.004	.002											MMT16ER180UNJ
16	.036	.010	.008	.006	.005	.004	.003											MMT16ER160UNJ
14	.041	.010	.009	.007	.005	.004	.004	.002										MMT16ER140UNJ
12	.048	.011	.011	.008	.007	.005	.004	.002										MMT16ER120UNJ
10	.058	.012	.011	.008	.006	.005	.005	.005	.004	.002								MMT16ER100UNJ
8	.072	.012	.012	.009	.007	.006	.006	.005	.005	.004	.004	.002						MMT16ER080UNJ

#### API Buttress Casing

(inch)

Pitch (thread/inch)	Total Cutting Depth	Number of Passes											Insert Type					
		1	2	3	4	5	6	7	8	9	10	11			G-class ground inserts			
5	.061	.010	.009	.007	.006	.005	.005	.005	.004	.004	.004	.002						MMT22ER050APBU

- (Note)
- Set the finishing allowance on a diameter at approx. .004 inch when using a full form insert.
  - Please note the cutting depth and the number of passes when a nose radius of a partial or semi-full form insert or of an internal threading insert is small to prevent damage to the insert nose.
  - Please set the cutting depth sufficiently deep enough on materials such as hardened steel or austenitic stainless steel to help prevent premature wear and chipping caused by the outer layer of the material.

## API Round Casing & Tubing

(inch)

Pitch (thread/ inch)	Total Cutting Depth	Number of Passes														Insert Type	
		1	2	3	4	5	6	7	8	9	10	11	12				G-class ground inserts
10	.056	.010	.009	.006	.006	.005	.005	.005	.004	.004	.002						MMT16ER100APRD
8	.071	.010	.009	.007	.006	.006	.006	.005	.005	.005	.005	.005	.002				MMT16ER080APRD

## American NPT

(inch)

Pitch (thread/ inch)	Total Cutting Depth	Number of Passes															Insert Type
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	G-class ground inserts
27	.026	.006	.005	.005	.004	.004	.002										MMT16ER270NPT
18	.040	.008	.006	.006	.005	.005	.004	.004	.002								MMT16ER180NPT
14	.052	.009	.007	.006	.006	.005	.005	.004	.004	.004	.002						MMT16ER140NPT
11.5	.065	.009	.007	.007	.006	.006	.005	.005	.005	.005	.004	.004	.002				MMT16ER115NPT
8	.095	.013	.011	.009	.008	.007	.006	.006	.006	.005	.005	.005	.004	.004	.004	.002	MMT16ER080NPT

## American NPTF

(inch)

Pitch (thread/ inch)	Total Cutting Depth	Number of Passes															Insert Type
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	G-class ground inserts
27	.025	.006	.006	.004	.004	.003	.002										MMT16ER270NPTF
18	.039	.007	.006	.006	.005	.005	.004	.004	.002								MMT16ER180NPTF
14	.053	.009	.008	.006	.006	.005	.005	.004	.004	.004	.002						MMT16ER140NPTF
11.5	.064	.009	.009	.007	.006	.005	.005	.005	.004	.004	.004	.004	.002				MMT16ER115NPTF
8	.094	.013	.011	.009	.007	.007	.006	.006	.006	.005	.005	.005	.004	.004	.004	.002	MMT16ER080NPTF

- (Note) · Set the finishing allowance on a diameter at approx. .004 inch when using a full form insert.
- Please note the cutting depth and the number of passes when a nose radius of a partial or semi-full form insert or of an internal threading insert is small to prevent damage to the insert nose.
  - Please set the cutting depth sufficiently deep enough on materials such as hardened steel or austenitic stainless steel to help prevent premature wear and chipping caused by the outer layer of the material.