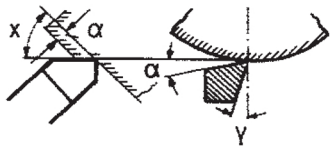
Machining Guidelines

Turning



α	Setting Angle	
γ	Rake Angle	
x	Recessing Angle	
ν	Cutting Speed	m/mN
s	Feed	mm/U

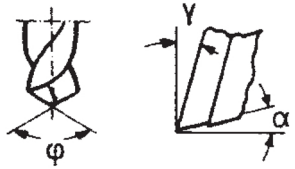
Peak Radius r to be min. 0,5mm

Milling

α	Setting Angle	
γ	Rake Angle	
ν	Cutting Speed	m/mN

Allow feed up to 0.5 mm/tooth

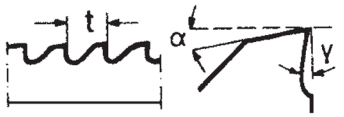
Drilling



α	Setting Angle	
γ	Rake Angle	
φ	Peak Angle	
ν	Cutting Speed	m/mN
s	Feed	mm/U

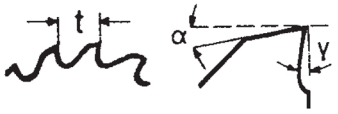
Twisting Angle β to be ca. 12° bis 16°

Belt saw



α	Setting Angle	
γ	Rake Angle	
ν	Cutting Speed	m/mN
t	Tooth Pitch	mm

Circular saw



α	Setting Angle	
γ	Rake Angle	
ν	Cutting Speed	m/mN
t	Tooth Pitch	mm

	α	γ	χ	ν	s	α	γ	ν	α	γ	φ	ν	s	α	γ	ν	τ	α	γ	ν	τ
PVC	8-10	0-5	50-60	200-750	0.3-0.5	5-10	015	3001000	5-10	3-5	60-100	30-120	0.1-0.5	30-40	0-5	1200	3	5-10	0-5	3000-4000	3-5
PP/PE-HD	6-10	0-5	45-60	250-500	0.1-0.5	10-20	515	250500	5-15	10-20	60-90	50-150	0.1-0.3	20-30	2-5	500	3-8	20-30	6-10	2000	3-8
ABS	5-15	25-30	15	200-500	0.2-0.5	5-10	010	300500	8-12	10-30	60-90	50-200	0.2-0.3	15-30	0-5	300	2-8	5-10	0-5	1000	2-5
PMMA	5-10	0-4	15	200-300	0.1-0.2	2-10	210	2000	3-8	0-4	60-90	20-60	0.1-0.5	30-40	0-5	1200	3	5-10	0-5	1500-2000	3-5
PC/PPE	5-12	6-8	45-60	200-350	0.1-0.5	5-20	515	250350	8-10	10-20	90	50-100	0.1-0.3	15-30	5-8	300-500	2-8	15-30	5-8	1800-2500	2-8
PA	6-10	0-5	45-60	200-500	0.1-0.4	10-20	515	250500	5-15	10-25	90	50-150	0.1-0.3	15-30	0-5	300-500	2-8	15-30	0-8	1800-2500	2-8
PDM	6-8	0-5	45-60	300-600	0.1-0.4	5-15	515	250500	5-10	5-30	90	50-200	0.1-0.3	20-30	0-5	500-800	2-5	5-10	0-10	1800-2500	2-5
PET	0-15	0-15	45-60	200-500	0.1-0.5	5-15	015	250500	5-16	10-30	90-110	50-100	0.1-0.3	15-40	0-8	300	2-8	10-15	0-15	1000-2500	2-5
PVDF	5-15	5-15	10	150-500	0.1-0.3	5-15	515	250500	10-16	5-20	110-130	150-300	0.1-0.3	20-30	5-8	300-500	2-5	5-10	0-10	1000-3000	2-5
E-CTFE	6-10	0-5	45-60	250-500	0.1-0.5	10-20	515	250500	5-15	10-20	60-90	50-150	0.1-0.3	20-30	2-8	500	3-8	20-30	6-10	1000-2500	3-8
PSU/PPSU	5-10	0-5	45-60	250-400	0.2-0.3	5-15	010	250500	5-15	10-20	60-90	30-90	0.1-0.3	15-30	0-4	500	2-5	15-30	0-15	2000	2-5
PEI	5-10	0-10	45-60	300-400	0.2-0.3	5-15	010	200400	5-15	10-20	60-90	30-90	0.1-0.4	15-30	0-4	500	2-5	15-25	0-15	2000	2-5
PEEK	5-10	3-8	45-60	200-500	0.1-0.4	5-15	515	180450	5-15	10-25	90-120	70-200	0.1-0.3	15-30	0-5	500-800	3-5	15-30	0-10	1800-2500	2-5
GF mod	6-8	2-8	45-60	150-200	0.1-0.5	15-30	610	80100	6	5-10	90-120	80-100	0.1-0.3	15-30	10-15	200-300	3-5	15-30	10-15	500-1500	3-5

It is recommended to use only sharpened HSS tools(High Speed Steel.)

Due to the danger of stress cracking we do recommend to use no cooling agents oil based(or to clean the parts well after machining).
Amorphous materials should be annealed during machining

To avoid treatment problems we recommend a heating up of the materials on approx. 120°C.
Use only sharpened tools with small feed.

With these materials we should be paid attention to a good exhaust of the machining area.