
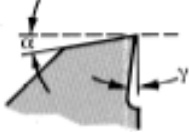
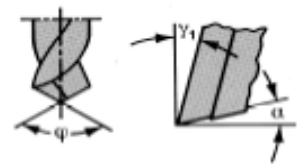
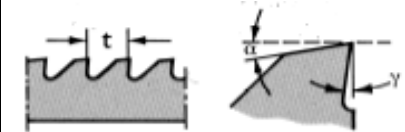


Guidelines for Machining Engineering Plastics

Machining Operations		Turning					Milling			Drilling and Boring					Sawing				Special Measures
		 <p> α Clearance angle (°) γ Rake angle (°) x Side angle (°) V Cutting speed ft/min S Feed mils/rev </p> <p>The nose radius r must be at least 0.020in. For SINTIMID,™ r should be 0.005 to 0.010 in.</p>					 <p> α Clearance angle (°) γ Rake angle (°) V Cutting speed ft/min </p> <p>The feed can amount to up to 0.020 in./tooth. For SINTIMID,™ use a feed of 0.010 in. for rough cutting and 0.002 in. for finishing.</p>			 <p> α Clearance angle (°) γ_1 Rake angle (°) ϕ Point angle (°) V Cutting speed ft/min S Feed mils/rev </p> <p>The angle of twist β of the drill bit should be approximately 12 to 16°.</p>					 <p> α Clearance angle (°) γ Rake angle (°) V Cutting speed ft/min t Pitch mils </p> <p>For SINTIMID,™ use a carbide-grit-edge band saw with a continuous edge to prevent chipping.</p>				
Trade Name	Raw Material Group	α	γ	x	V	S	α	γ	V	α	γ_1	ϕ	V	S	α	γ	V	t	
TECANAT™	Polycarbonate	5-10	6-8	45-60	950	4-20	10-20	5-15	950	8-10	10-20	90	150-300	8-12	15-30	5-8	950	115-310	In the case of fluid cooling only use pure water
TECARAN™	ABS (Acrylonitrile-Butadiene-Styrene)	5-15	25-30	15	650-1600	8-20	5-10	0-10	950-1600	8-12	10-30	90	150-650	8-12	15-30	0-5	950	75-310	In the case of fluid cooling only use pure water
TECAST VEKTON™	Cast Nylon 6	6-10	0-5	45-60	800-1600	4-20	10-20	5-15	800-1600	5-15	0-20	90-120	150-500	4-12	20-30	2-5	1600	115-310	
TECASON S™	Polysulfone	6	0	45-60	1150-1300	4-12	2-10	1-5	800-1600	3-10	10-20	90	50-250	4-12	15-30	0-4	1600	75-195	Preheat to 240°F before drilling or sawing
TECAFLON™	PVDF (Polyvinylidene Fluoride)	10	5-8	10	500-1600	4-12	5-15	5-15	800-1600	10-16	5-20	130	500-650	4-12	20-30	5-8	950	75-195	
TECAMID®	Nylon 6/6	6-10	0-5	45-60	800-1600	4-20	10-20	5-15	800-1600	5-15	10-20	90	150-500	4-12	20-30	2-5	1600	115-310	
TECAFORM™	Acetal	6-8	0-5	45-60	950-1950	4-16	5-15	5-15	800-1600	5-10	15-30	90	150-650	4-12	20-30	0-5	1600-2600	75-195	
TECAPET™	PET (Polyethylene Terephthalate)	5-10	0-5	45-60	950-1300	8-16	5-15	5-15	950	5-10	10-20	90	150-300	8-12	15-30	5-8	950	115-310	Preheat to 240°F before drilling or sawing
DELRLIN®	Acetal Homopolymer	6-8	0-5	45-60	950-1950	4-16	5-15	5-15	800-1600	5-10	15-30	90	150-650	4-12	20-30	0-5	1600-2600	75-195	
NORYL®	PPO (Polyphenylene Oxide)	5-10	6-8	45-60	950	4-20	10-20	5-15	950	8-10	10-20	90	150-300	8-12	15-30	5-8	950	115-310	In the case of fluid cooling only use pure water
TECAPEEK™	Polyetheretherketone	6-12	5	45-60	950	15	5-15	5-15	550-750	12	10-20	118	400	2-8	15-30	10-15	600-950	115-195	Preheat to 240°F before drilling or sawing
ULTEM®	Polyetherimide	15	5	5	1000-2000	5-20	15	5	650-1300	5-10	5-20	70-90	300	5-15	15-30	5-10	3000-5000	100	In the case of fluid cooling only use pure water
SINTIMID™	Polyimide	0-5	8-10	60-75	300-600	1-20	5-20	5-15	300-800	5-15	5-20	90-120	500-600	3-5	15-30	0-5	3000-7000	80-130	Use hard-metal or diamond-tipped cutting tools
Reingforced Engineering Plastics*		6-8	2-8	45-60	500-650	4-20	15-30	6-10	250-350	6	5-10	120	250-300	4-12	15-30	10-15	600-950	115-195	Use hard-metal cutting tools

* Reinforcing materials: glass fibers, glass beads, carbon fibers