

## Machining of Fiber filled Nylons (Glass Filled Nylon & Hydlar® ZF)

Fiber filled nylons can be machined fairly easily. Fibers can lead to increases warpage of a product after machining as well as increased tool wear. Tooling must be kept sharp to avoid excessive frictional heat build up which can lead to dimensional instability and melting.

Hydlar® ZF is a Kevlar® (aramid) fiber reinforced nylon. Aramid fibers are ductile and much less abrasive to tooling than glass fiber.

<b>Hydlar® ZF Machining</b>	<b>Glass Filled Nylon Machining</b>
<p><b><u>Drilling</u></b> Use carbide or diamond tipped tooling Speed 2600RPM for 5/32" drill Feed: 10"/min Use of coolant will help prevent melting Point angle 118°</p>	<p><b><u>Drilling</u></b> Use carbide or diamond tipped tooling Speed 2500RPM for 9/64" drill Feed: 5"/min Use of coolant will help prevent melting Point angle 118°</p>
<p><b><u>Milling</u></b> Use carbide or diamond tipped tooling Speed 2600 RPM Feed 10-15 inch/min Depth of cut up to 0.625" for end mill Fly cut depth = 0.01 –0.05" Use standard geometry 30° Helix angle for end mill</p>	<p><b><u>Milling</u></b> Use carbide or diamond tipped tooling Speed 2000 RPM Feed 5-10 inch/min Depth of cut up to 0.500" for end mill Fly cut depth = 0.01 –0.05" Use standard geometry 30° Helix angle for end mill</p>
<p><b><u>Sawing</u></b> Use carbide tipped blade Speed = 1500 - 2500 fpm Moderate feed Use 4 pitch claw tooth blade</p>	<p><b><u>Sawing</u></b> Use carbide tipped blade Speed = 1500 fpm Moderate feed Use 4 pitch claw tooth blade</p>

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