

HELPFUL DESIGN INFORMATION

Design Guide For Sprockets . . .

Round or Rectangular Teeth?

As a general guide, if the choice of the tooth shape is open, remember.....

- A round tooth form will laterally guide the perforated material.
- A round perforation form is more economical to manufacture.
- A rectangular tooth is more suitable for heavier loads.
- If dual perforations are desired, a rectangular tooth allows for inaccuracies in the lateral spacing.



Material Selection

Material cost is usually less than 4% of the cost of any sprocket, but the proper choice is very important to a successful application. A poor selection might result in premature tooth wear, which could seriously affect performance and cause damage to the perforated material.

The primary factors affecting choice should be weight (inertia), wear resistance and corrosion resistance.

Where weight or low inertia is a concern, aluminum is an excellent choice. The ability to plate the surface with hard anodize, chrome or nickel offers greater wear and corrosion resistance. Titanium is also a light weight material but is more costly to machine.

For improved wear resistance, a heat treatable alloy is preferred, although the high chrome/nickel alloys have good wear resistance without heat treating. The most economical choice when good wear resistance and tight tolerances are needed is 416 stainless steel heat treated to a surface hardness of R 'C' 64. The heat treatment process used ensures very little distortion even in thin cross section designs.

Corrosion can be prevented by choice of material or subsequent plating operations. It is usually more economical to plate a low cost alloy as the high chrome stain resistant alloys are more costly to machine. On ferrous alloys, electroless nickel plating to .001" or less gives the most uniform thickness. Aluminum can be anodized or plated to improve its corrosion resistance.



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