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TECHNICAL INFORMATION
BEARING TECHNICAL INFORMATION

Measuring Operating PV

The load carrying ability of the plastic bearing material is listed as a PV (pressure/velocity) factor.

P = Listed as pounds per square inch over the projected bearing area.
V = The velocity in feet per minute of the shaft at the surface.
PV = P x V

Example:

Shaft OD: 5/8”
Bearing Length: 1-1/32”
Bearing Load: 35 lbs.
Shaft RPM: 120

V (FPM) = .2618 x (Shaft Dia.) x (Shaft RPM)
= .2618 x .625” x 120 RPM
= 19.635

$$P\ (PSI) = \frac{\text{Bearing Load}}{(\text{Bearing Dia.}) \times (\text{Bearing Length})}$$

$$= \frac{35\ \text{lbs.}}{.625” \times 1\text{-}1/32”}$$

= 54.3 PSI

PV = V (FPM) x P (PSI)
= 19.635 x 54.3
= 1066.2

Use the Material “PV Table” on page TP 01 to see if the selected material is within the PV limits.

Note: The PV value of any material may be affected by many variables, such as low or high temperatures, shock loads, shaft material, hardness of finish, etc. Lubrication can increase the capacity as much as 100%.

Plastic bearings must be designed around their own abilities and characteristics, then proven by actual performance. Field testing under actual conditions is strongly recommended.