

## Checklist for Specifying a PM Part

This checklist has been created to give those considering the use of PM technology an idea of the information often needed to design a typical part. It lists materials to have and answers you should be ready to share with the part fabricator. Please feel free to print this page and use it as a reference when talking with one of our MPIF-member companies.

1. Part drawing.
2. Subassembly drawing to illustrate where and how the part is used within the total design.
3. What are the estimated annual quantity requirements and at what quantity level will the weekly or monthly release be?
4. Identify current successful material (if already established).
5. Identify any problem with the current design.
6. Identify the critical performance requirements, e.g., strength, wear resistance, corrosion properties, impact resistance, weldability, pressure tightness, magnetic response, thermal conductivity, applicable to your part.
7. Identify critical tolerance issues.
8. Identify the need for special surface treatment, e.g., corrosion protection (oil dip, plating, paint, phosphating), shot peening, and so on.
9. Identify the need for properties of heat treatment, e.g., hardness (case/case), wear resistance, increased strength and lower density, and so on.
10. Identify any special test requirements, e.g., special test fixture or equipment, performance level of current design, static or dynamic, and so on.
11. Gears have unique requirements that dictate the need for specific data such as the following:
  - a. Number of teeth
  - b. Diametral pitch
  - c. Pressure angle
  - d. Measurement over wires
  - e. Tooth thickness
  - f. Root and tip radius
  - g. Helix angle and hand
  - h. AGMA-quality class
  - i. Mating gear data and nominal center distance
  - j. Inspection requirements—runout; pitch; profile and lead tolerance; or tooth-to-tooth, total composite tolerance and testing radius