

Net-Forged Bevel and Transmission Gears: Applications For Both

THE QUESTION

I am researching gear applications. Examples:

- Net-forged bevel gears: Where are they used outside of differentials?
 - Transmission gears: What applications would use a similar gear?
- Any help on this would be appreciated.

Reader question answered by **Chuck Schultz**, *Gear Technology* Blogger (geartechnology.com) and Technical Editor:

Net-forged bevel gears have been around for over 100 years, but have enjoyed renewed interest in the last 20 years as tooling methods have improved for both quality level and tool life.

The advent of front-wheel drive cars has greatly reduced the volume of bevel gears needed. Powder metal technology has improved to take over many smaller bevels that were previously cut. Overall bevel gear use is down; the only “new” application in recent years has been the adoption of the “snuggler-type” gear motor for conveyor and packaging applications. Bevel gear designs do not have the

power density available with ground helical gears and require more complex mountings to perform properly.

Auto and truck production volumes dwarf all other industrial activities. The annual need for over 20 million transmissions and axle assemblies around the world has resulted in wonderfully efficient equipment and processes. These methods don’t transfer well to lower-volume applications, however. As a result, OEM transmission gears tend to be produced on dedicated, continuous process lines, while similar-sized, but lower-volume, parts get a less-capital-intensive batch processing. **PTE**

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