Why Marley Geareducers?

- They are designed specifically for axial flow fan drive application.
- They are designed for cooling tower application, one of the most severe operating environments in which a lubricated mechanical device can be expected to operate.
- They are designed for continuous duty.
- They are subjected to numerous tests in prototype form before being released for production.
- They are given operational tests during final inspection to prove satisfactory quality level of production assemblies.
- They are performance proven in field application.
- Gear and bearing life are designed to exceed industry standards.

SPX Cooling Technologies is the only major cooling tower manufacturer which designs and manufactures the mechanical components (other than electric motors) used on its equipment. For more than 50 years, our program has been so successful that our Marley fans, Geareducers and driveshafts are widely used on OEM applications and as replacements on competitive water cooling towers.

The durability, smooth and efficient operation and extended service life built into Marley Geareducers stem directly from sound engineering design, carefully controlled manufacturing techniques, and rigid inspection and testing methods used in their production.

Marley Geareducers were developed to meet the special requirements of geared speed reducers in water cooling tower and similar heat exchanger fan drive applications. Improvements in design and manufacturing have been made continuously through the years. The direct result is exceptional reliability. Right angle or parallel in shaft arrangement, they are manufactured in single and double reduction designs. Double reduction gearing is utilized when higher capacities and larger fan sizes demand larger speed reduction ratios.
Materials And Manufacturing

Gears
Both spiral bevel and helical gears are used. All gearing is rated conservatively to satisfy or exceed the latest accepted trade association gear rating standards. All gears are nickel-moly alloy steel, case carburized and hardened to Rc 58 to 63. (All spiral bevel gears are lapped in matched sets to provide best tooth bearing pattern with a minimum of break-in. After lapping, each set is match marked to ensure its being used as a pair.)

Bearings
Bearings used in Marley Geareducers are of the heavy-duty taper-roller types for minimum friction and maximum service life. They are selected for calculated bearing life which varies somewhat with Geareducer size, but is in excess of minimum requirements of the leading commercial standards. Tapered bearings are located at the bottom of the fan shaft to carry the thrust load imposed by the weight of fan and shaft.

Cases, Covers, Pinion Cages and Caps
All principal external parts are of high quality cast iron, stress relieved by heat treatment before machining. Because of the critical importance of extremely accurate and rigid shaft alignment in Marley Geareducers, all machining operations, inspection, assembly procedures, and testing are rigidly controlled.

Run-In And Final Inspection

After assembly, every Marley Geareducer is run-in under a torque load. This operation allows a final check to be made on proper gear adjustment and housing dimensions by producing a visible tooth bearing pattern on the gear teeth which is examined and recorded on a serialized inspection record form along with other critical dimensional inspection records. In addition, while the unit is run-in for several minutes at full speed a rustproofing oil is being circulated through the unit and through a filter at a high rate. This provides a final cleaning operation and at the same time coats all interior surfaces with a rust preventive coating which is good for about six months storage.