



KPR Institute of Engineering and Technology (Autonomous Institution)

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Department of Electrical and Electronics Engineering

M/s Shanthi Gears - Industrial Visit Report

The PALS is an educational initiative by volunteers from Alumni Fraternity of IITs for the benefit of students, faculty, and management of engineering Institutions. The PALS was organized at M/s Shanthi Gears Private Ltd., Coimbatore (A unit of Murugappa Group) industrial visit on 01.11.2019. The HR team presented about evolution of M/s Shanthi Gears and its products, development, process, safety precaution of the plant in the introductory session. M/s Shanthi Gears is a pioneer in gear manufacturing and ranks amongst India's top gear manufacturers today. For the past 40 years M/s Shanthi Gears, has been the preferred name for gear and gear box solutions. They are the manufactures of Spur, Helical gear boxes, Bevel – helical gearboxes, Worm Gear boxes, Geared motors, Extruder gear boxes, Cooling tower gear boxes for steel, Cement, Sugar, Material handling, Power, Paper, Rubber, Plastic, Textile, Mining, Chemical Processing Industries. They also manufacture gear boxes for Railways and Aerospace applications by following the norms of EN 9100 and IRIS Standards. They have manufactured both standard and customized gear boxes for above mentioned application. The enquiry and technical team jointly conducted the feasibility study and discussed about the customer orders.

Stage 1: All the necessary raw materials (Steel rod & Casting) are brought from their own foundry and allied vendors in India after screening / quality test.

Stage 2: Engineering team will release the manufacturing drawing using standard CAD packages and will prepare the bill of materials.

Stage 3: The production and planning departments will plan and all the resources with optimum cost.

Stage 4: Preliminary Gear Manufacturing is performed using the operations like turning, hobbing and milling. Gear box will be fabricated using casting, milling, welding, turning and grinding operations.

Stage 5: Heat treatment is conducted in furnace to increase the hardness of the gears to withstand heavy service loads using diffusion and thermal process.

Stage 6: The final finishing is done with surface, cylindrical, profile and bore grinding machines to increase the surface finish.

Stage 7: Inspection of finished gear is done using metrological tools to inspect all defects and defect free gears are sent to assembly section.

Stage 8: Gear box and Gears are assembled in assembly section and the required mechanism is established.

Stage 9: Trail run inspection of gear box is performed to inspect the noise, vibration, leak, heat and generation.

Stage 10: Finishing work is carried out including painting colour decided by the customer and final packagings are done.