THE SEVEN DEADLY WASTES

Waste Category	Description	Countermeasure (Lean Tool)
Overproduction	Making something before it is truly needed. This is a particularly serious form of waste because it leads to excess inventory that is often used to mask other underlying problems and inefficiencies.	■ Pace production so the rate of manufacturing matches the rate of customer demand (Takt Time). ■ Use a pull system to control how much is manufactured (Kanban). ■ Reduce setup times so that smaller batches can be economically manufactured (SMED).
Waiting	Time when work-in-process is waiting for the next step in production. It can be truly illuminating to look at the time from order to delivery and ask – how much of that time is actually spent on true value-added manufacturing.	■ Design processes so that the flow is continuous and there are minimal (or no) buffers between steps in production (Continuous Flow). ■ Use standardized work instructions to ensure that a consistent method and consistent times are used for each step of production (Standardized Work).
Transport	Unnecessary movement of raw materials, work-in-process or finished goods.	■ Design a linear, sequential flow from raw materials to finished goods (Value Stream Mapping). ■ Make sure work-in-process is not placed into inventory (Continuous Flow).
Motion	Unnecessary movement of people.	■ Ensure that work areas are logically organized (5S). ■ Consider alternate arrangements of equipment that reduce motion (Value Stream Mapping).
Overprocessing	More processing than is needed to produce what the customer requires. This is often one of the more difficult wastes to detect and eliminate.	■ Compare customer requirements to manufacturing specifications (Kaizen). ■ Look for potential simplifications to the manufacturing process (Kaizen).
Inventory	Product (raw materials, work-in-process, or finished goods) quantities that go beyond supporting the immediate need.	■ Bring raw materials in only as they are needed (Just-In-Time). ■ Reduce or eliminate buffers between steps in production (Continuous Flow). ■ Refer to Overproduction countermeasures (Takt Time, Kanban, and SMED).
Defects	Production that is scrap or requires rework.	■ Design processes so they are less likely to produce defects (Poka-Yoke). ■ Design processes to detect abnormalities so they can be immediately corrected (Jidoka). ■ Look for the single most frequent defect and determine why it occurs (Root Cause Analysis). ■ Create work instructions that provide a consistent method of manufacturing the part. (Standardized Work).