



## Green Initiatives and Sustainability

### 5S, ISO Quality and Lean for Manufacturing

#### GENERAL

A very significant amount of effort and resources have been put forth in our manufacturing facility that provide many environmental and sustainability benefits.

Lean manufacturing processes to reduce waste – these save both time and materials.

5-S systems(Sort-Set-Shine-Standardize-Sustain)offer several environmental benefits

Regular cleaning of windows decreases the energy needed for lighting.

Energy-efficient lighting

Painting and cleaning; easier for workers to notice spills or leaks quickly. This reduces waste from spills and clean-up.

Regular cleaning decreases the accumulation of cuttings, shavings, dirt and other substances that can contaminate production processes and result in defects. A reduction in defects also leads to considerable environmental benefits because energy and materials are no longer wasted in producing new and disposing of defective products.

5-S reduces the square footage needed for operations by organizing and disposing of unused equipment and supplies. Less storage space means less energy needed to heat and light the space.

Organizing equipment, parts and materials so they are easy to find reduces unneeded consumption. Employees are more likely to finish one batch of materials before opening or ordering more, resulting in less waste requiring disposal.

#### MAINTENANCE

Regular equipment preventive maintenance (we use Manager Plus Software) and inspections

Prevent air compressor leaks

Oil leaks on machines

Optimum machine performance decreases energy use

#### PRODUCTION

Programming of machines for optimal raw material usage and less material waste using nesting programs (Amada software)

ISO requirements for monitoring waste using KPI (Key Process Indicators) for Defects, Scrap, Overproduction

Optimal labor processing – provides efficiency in resources



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## Transportation

No boxes / packaging in cell packs being used for select products alleviates use of packaging and waste at destination site

## Scrap Material and Recycling

Material recycling program

Electronics and computer recycling

Boxes being used for specialty carts are recycled for use

## Safety program

Employee safety program

MSDS sheet

## Customer Material Certifications

**RoHS** (Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment) Although a European Directive, we process all of our plating and any additive outside service within RoHS compliance. Most processors other than chrome plating can adhere to this directive in their normal operations.

**REACH** (Substances of very high concern) Another EU directive which requires that many chemicals of very high concern do not surpass specific percentages within the product.

## Infrastructure

In 2015 our manufacturing facility underwent a revamp of all lighting fixtures in the shop with energy savings of approximately 39%. All fixtures accept 5000K daylight bulbs.

### Infrastructure Improvement-Amperage Reduction:

System Voltage:	277
Total existing amps draw:	499
Total proposed amps draw:	302
Ampacity Gained	<u>197</u>

We used the ComED smart ideas rebate program as well.



ComEd Energy Efficiency Program

