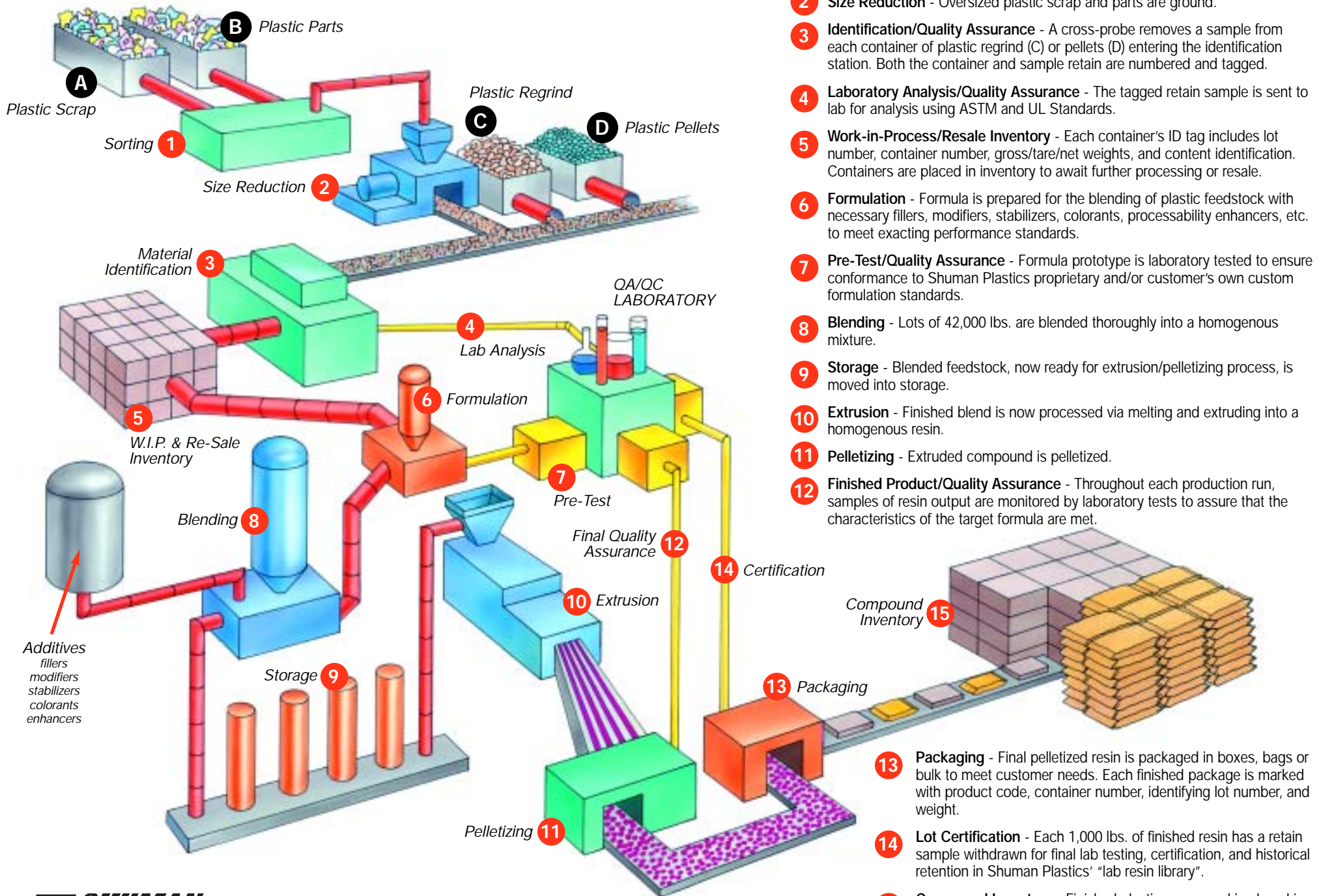


# Process Guide for Raw Materials Quality Assurance



- 1 **Sorting** - Plastic Scrap (A) and Plastic Parts (B) are inspected.
- 2 **Size Reduction** - Oversized plastic scrap and parts are ground.
- 3 **Identification/Quality Assurance** - A cross-probe removes a sample from each container of plastic regrind (C) or pellets (D) entering the identification station. Both the container and sample retain are numbered and tagged.
- 4 **Laboratory Analysis/Quality Assurance** - The tagged retain sample is sent to lab for analysis using ASTM and UL Standards.
- 5 **Work-in-Process/Resale Inventory** - Each container's ID tag includes lot number, container number, gross/tare/net weights, and content identification. Containers are placed in inventory to await further processing or resale.
- 6 **Formulation** - Formula is prepared for the blending of plastic feedstock with necessary fillers, modifiers, stabilizers, colorants, processability enhancers, etc. to meet exacting performance standards.
- 7 **Pre-Test/Quality Assurance** - Formula prototype is laboratory tested to ensure conformance to Shuman Plastics proprietary and/or customer's own custom formulation standards.
- 8 **Blending** - Lots of 42,000 lbs. are blended thoroughly into a homogenous mixture.
- 9 **Storage** - Blended feedstock, now ready for extrusion/pelletizing process, is moved into storage.
- 10 **Extrusion** - Finished blend is now processed via melting and extruding into a homogenous resin.
- 11 **Pelletizing** - Extruded compound is pelletized.
- 12 **Finished Product/Quality Assurance** - Throughout each production run, samples of resin output are monitored by laboratory tests to assure that the characteristics of the target formula are met.
- 13 **Packaging** - Final pelletized resin is packaged in boxes, bags or bulk to meet customer needs. Each finished package is marked with product code, container number, identifying lot number, and weight.
- 14 **Lot Certification** - Each 1,000 lbs. of finished resin has a retain sample withdrawn for final lab testing, certification, and historical retention in Shuman Plastics' "lab resin library".
- 15 **Compound Inventory** - Finished plastic compound is placed in storage awaiting shipment to customer.



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