



SUPPLIER QUALITY MANUAL

Crenlo Engineered Cabs, LLC
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EFFECTIVE DATE : Feb. 1, 2023	REV. 2	TITLE: Supplier Quality Manual OWNER: David Kinkade	
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Basic Supplier Requirements

- All suppliers are compliant to third party Quality Management System (formal certification not required)
- Suppliers must notify Crenlo of any changes to the product, process, or sub-supplier changes
- All suppliers are expected to ship products with zero defects
- Supplier delivery performance shall be 100% on time
- Culture of continuous improvement and Lean Manufacturing
- Use of error-proofing in design and mistake-proofing in manufacturing processes
- Develop and maintain an aggressive warranty reduction program
- Requests for Corrective Action require an initial response within 24 hours and a final response (including root cause analysis and irreversible corrective action) within 30 days or sooner.

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1. Introduction

This manual has been developed to assist all current and potential Crenlo suppliers in developing, maintaining, and continually improving a quality system that meets Crenlo requirements. Suppliers are not required to have third party QMS certification but should be compliant to the ISO 9001:2015 standard at a minimum.

Crenlo’s continued success is built upon providing products and services that meet customer requirements and improve our competitiveness. Crenlo will communicate and collaborate with suppliers to provide unparalleled levels of quality and service to customers.

Crenlo designs and fabricates metal products for the electronic, telecommunication, computer, electrical and agriculture/construction equipment industries. This manual specifically informs suppliers of how they support the Crenlo Quality Policy:

Crenlo Quality Policy: “We are committed to meeting customer requirements and increasing customer satisfaction through standardizing processes, sharing best practices, and driving continuous improvement to the Quality Management System through education, process advancements and problem prevention.”

It is expected that our suppliers work toward exceeding the expectations and procedures of Crenlo’s Supplier Quality Manual and individual contracts to achieve a strong partnership and a continuous growth environment.

1.1 Scope

The intent of this manual is to broaden the scope of recognized industry quality system standards to include additional requirements of Crenlo. It is imperative that every internal and external supplier location that manufactures and/or ships production or service parts and materials to Crenlo plants, or to our customer's plants, embrace the standards and business practices outlined in this manual.

1.2 Supplier Quality Manual - Relation to Purchase Agreements

Supplier acknowledges and agrees that the requirements of this Supplier Quality Manual shall augment any supplier contract, Terms and Conditions, and subsequent Purchase Agreements issued by Crenlo. Supplier shall confirm agreement with this Manual by signing and returning Attachment A form to the Crenlo Supplier Quality team prior to accepting any purchase commitment.

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1.3 Acronyms/Abbreviations

AIAG	Automotive Industry Action Group
ANOVA	Analysis of Variance
ANSI	American National Standards Institute
ASQ	American Society for Quality
ASTM	American Society for Testing and Materials
CAPA	Corrective and Preventive Action
COPQ	Cost of Poor Quality
COTS	Commercially Available Off-the-Shelf
DFARS	Department of Defense FAR Supplement
DMR	Defective Material Report
DOE	Design of Experiments
DRC	Democratic Republic of the Congo
DUNS	Data Universal Numbering System
EAR	Export Administration Regulations
ECO	Engineering Change Order
ECR	Engineering Change Request,
EHS	Environmental Health and Safety
FAI	First Article Inspection
FAR	Federal Acquisition Regulation
FIFO	First-In-First-Out
FMEA	Failure Mode and Effects Analysis
FOB	Free On Board
IEC	International Electrotechnical Commission
ISIR	Initial Sample Inspection Report
ISO	International Organization for Standardization
ITAR	International Traffic in Arms Regulations
LLC	Limited Liability Company
MSDS	Material Safety Data Sheet
NCMR	Nonconforming Material Report
NDA	Non-Disclosure Agreement
NIST	National Institute of Standards and Technology
NSAI	National Standard Authority of Ireland
OECD	Organization for Economic Co-operation and Development
OFAC	Office of Foreign Assets Control
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PBB	Polybrominated Biphenyls
PBDE	Polybrominated Diphenyl Ethers
PO	Purchase Order
PPAP	Production Part Approval Process

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PPM	Parts Per Million Defects
PPV	Purchase Price Variance
PSW	Part Submission Warrant
QS	Quality System
RFQ	Request for Quote
RMA	Return Material Authorization
ROPS	Roll-over Protection Structures
SCAR	Supplier Corrective Action Request
SLA	Service Level Agreement
SQA	Supplier Quality Assurance
TD	Temporary Deviation
TS	Technical Specification
UK	United Kingdom
UL	Underwriters Laboratories
VAVE	Value Analysis/Value Engineering

1.4 Applicable Documents/Associations

ANSI	*American National Standards Industry
ASTM	*American Society for Testing and Materials
ASQ	*American Society for Quality
ES-229	ROPS Mill Test Report Requirements
Form 12140	Terms and Conditions of Purchase (see Appendix B)
Form 12141	Strategic Supply Agreement
Form 12148	Supplier Evaluation Survey
Form 12206	Business Classification
Form 12207	Terms and Conditions of Purchase (see Appendix C)
Form 12208	Supplier Code of Conduct (see Appendix A)
Form 12987	Calibration Supplier Evaluation
N/A	Tax Exemption Certificate Request
NIST	* National Institute of Standards and Technology
ISO 9001	* Quality Management Standard
ISO-10012	* Quality Assurance Requirements for Measuring Equipment
ISO/IEC 17025	* Standard for Testing and Calibration of Laboratories
QA-159	PPAP Part Submission Warrant (see Appendix D)
TS-16949	* International Technical Standard
QC-080000 (NSAI)	* National Standard Authority of Ireland
W9	Federal W9 Tax Form

Suppliers are expected to understand and adhere to all standards applicable to the supplied product. Documents identified with an “*” are attainable from AIAG, ANSI, ASTM, NSAI, or ASQ organizations. All other documents/forms are accessible on Crenlo’s Supplier Portal website and/or through the Crenlo Procurement Team. [For Suppliers - Crenlo Engineered Cabs](#)

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2. General Supplier Expectations and Requirements

Compliance with this manual is imperative to ensure suppliers have the systems, processes, and procedures in place to meet compulsory requirements of our customers.

2.1 Supplier Integrity

All confidential and/or proprietary information provided by Crenlo to a supplier in connection with or to further a purpose, can be visual, written, or orally communicated and is deemed "Confidential Information". Suppliers will be required to sign one or more of Crenlo's Non-Disclosure Agreements (NDAs) (Crenlo Cab Products LLC - Form Mutual NDA, and Form 12207 for purchases in support of a government contract). These agreements will also bind the Sub-tier supplier to non-disclosure activities. Changes to the language in these agreements will not generally be permitted due to the time delays that would occur for review of any changes.

Except as required by law and regulations, suppliers will not issue a press release or grant an interview regarding any subject matter that involves a Crenlo product without the explicit written approval of Crenlo Management.

All Crenlo-owned documents, processes, and systems are "proprietary" and shall not be shared with any other supplier or customer without prior Crenlo approval.

2.2 Conflict Minerals

As a company Crenlo supports ending the violence and human rights violations in the mining of certain minerals from a location described as the "Conflict Region", which is situated in the eastern portion of the Democratic Republic of the Congo (DRC) and surrounding countries. Companies from around the globe have been requested to practice reasonable due diligence with their supply chain to assure that specified metals are only being sourced from mines and smelters outside of the "Conflict Region" or mines and smelters which have been certified by an independent third party as "conflict free" if sourced within the "Conflict Region".

The U.S. Securities and Exchange Commission adopted final rules to implement reporting and disclosure requirements related to "conflict minerals," as directed by the Dodd- Frank Wall Street Reform and Consumer Protection Act of 2010. The definition of "conflict minerals" refers to gold, tin, tantalum, tungsten, and the derivatives of cassiterite, columbite-tantalite, and wolframite, regardless of where they are sourced, processed, or sold. In the future additional minerals may be designated by the U.S. Secretary of State.

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Crenlo Commitment:

- Support the aims and objectives of the U.S. legislation on the supply of "conflict minerals".
- Do not knowingly procure specified metals that originate from the "Conflict Region" that are not certified as "conflict free".
- Request that our suppliers perform reasonable due diligence with their supply chains to assure that specified metals are being sourced only from mines and smelters outside of the "Conflict Region" or mines and smelters which have been certified by an independent third party as "conflict free" if sourced within the "Conflict Region".

Crenlo holds our suppliers responsible for providing written evidence documenting they are adhering to our commitment. If Crenlo discovers any use of these minerals produced in facilities that are "non-conflict free", in any material, parts or component Crenlo procures, Crenlo will take the necessary action to transition the product to be "conflict free".

3. General Business Requirements

3.1 Management

Supplier Top Management is expected to be fully committed in all aspects of the material supply chain process to Crenlo; insuring delivery of quality products per all provided requirements. This obligation shall address all the managerial processes of product realization, logistics, quality, services, and continuous improvement. In addition, Supplier Top Management must be fully committed to observing and enforcing the obligations listed above in the Supplier Integrity section.

3.2 Risk Management

Suppliers must have a business continuity plan to protect Crenlo’s supply of product in the event of an emergency (e.g., utility interruptions, labor shortages, logistic disruptions, key equipment failure, pandemics, and natural disasters). A planned infrastructure of communication, facilities, and equipment are highly recommended to achieve this goal. In addition, suppliers must inform the Crenlo Procurement Team of plant shutdowns, Holidays, etc.; to ensure a negative impact to supply sourcing and response expectations are not realized.

3.3 Communication

Suppliers are expected to have a business email address for all Crenlo communication. All written communications are to be in English to ensure documents are transferable and understood by all Crenlo personnel. All electronic communication shall constitute as an electronic signature for validating the document or record.

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Acceptance of a Crenlo Purchase Agreement constitutes acceptance of the requirements of this manual. In addition, suppliers are expected to review this Quality Manual annually, sign the form in Attachment A, and make appropriate internal revisions if necessary.

Suppliers shall provide the appropriate contact liaison responsible for Supplier Corrective Action Request (SCAR), Return Material Authorization (RMA), First Article Inspection (FAI) or Production Part Approval Process (PPAP), Certs, and other required documentation completion.

3.3.1 Responsiveness

Crenlo suppliers are expected to respond expeditiously and efficiently to all inquiries, quote requests, quality non-conformances, return material authorization requests, late delivery notification, shipping documentation, etc. *Supplier responses/communications should be within one (1) business day of receipt unless otherwise noted in this document or the specific Crenlo request.*

3.3.2 Status Changes

It is the supplier’s responsibility to inform Crenlo of any change in status to facilitate database accuracy and reassess performance activities/customer impact. These status changes could encompass ownership/management, name, address, quality system, or achieving ISO certification.

3.4 Documentation Compliance

Products purchased by Crenlo must comply with all blueprints, specifications, and Demand Communication requirements. These include materials, services, subcontracted processes, and specification tolerances. Suppliers are responsible for obtaining the latest blueprint or specification and ensure documents are available to all personnel responsible for compliancy to Crenlo’s requirements. Crenlo uses Imperial (US) and Metric measurement standards to describe engineering blueprints and specification requirements. Therefore, suppliers shall report and describe measurements in the same format as indicated on the respective blueprint, purchase order, or specification. Obsolete documents shall be properly destroyed to ensure no accidental manufacturing use.

3.5 Continuous Improvement (Quality, Defect Prevention, Commercialization, and Cost Improvement)

Error-Proofing

Suppliers are expected to demonstrate the use of error-proofing methods and actions for making improvements to minimize the total cost of producing the product.

Error-Proofing is defined as the use of techniques during the design phase of a product or process to ensure the product will function as intended for the useful life of the product and that the product can only be manufactured or assembled per the design intent with the least risk for an error to occur during processing. This definition includes the “useful life of the product” which relates to environment and life testing to ensure the product will perform over time. Useful life is

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critical for warranty and the associated costs, as our customers continue to put more emphasis and financial responsibility in this area.

Suppliers are encouraged to adopt Lean Enterprise techniques and systems which reflect Crenlo’s business structure and environment. These efforts facilitate progress towards a collaborative partnership and shared success of maximizing value to our customers. Note: The focus of continuous improvement initiatives shall be on “prevention” not “detection”. Examples of recommended continuous improvement techniques:

- Toyota Production Systems Methods (e.g., 5S, Kaizen)
- Process/machine capability studies (Cp, CpK)
- Validations
- Run at Rate studies
- Lean manufacturing principles
- Quality control charts
- Design of Experiments (DOE)
- Theory of constraints
- Problem-solving techniques (e.g., FMEA, Pareto Analysis, 8D, Fishbone, 5-Why, VAVE)
- Mistake proofing (Poke Yoke)
- Benchmarking
- Fault avoidance
- Reliability and Repeatability Equipment Validation (Gauge R & R)

Quality cognizance shall be deployed throughout the processes of product development, quoting, manufacture, supply, service, warranty, and ultimate end use of the product.

3.6 Regulatory/Safety Requirements

It is the supplier’s responsibility to ensure that their product is compliant with all applicable regulatory agency and product safety requirements. Supplier agrees to provide regulatory compliance data upon request by Crenlo personnel or Crenlo Contracted vendors.

4. Quality Requirements for New Parts/Suppliers or Changed Parts

4.1 New Part or New Supplier for an Existing Part

Whenever a new part or material is being procured or a new supplier is being used for an existing part or material, Crenlo will generally require one of the following submissions to approve the new part or material:

- 1) Production Part Approval Process (PPAP) documentation and samples
- 2) Certificate of Conformance and associated reference documents
 - a. For Commercial Off the Shelf (COTS) parts purchased from a catalog within the industry or purchased from a distributor.

Each of these submission types will be described in more detail below. The submission requirements for a given new part will be conveyed to the supplier by purchasing and will

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generally be determined by the Supplier Quality Engineer at the Crenlo plant that will initially use the new part. *It is imperative that suppliers provide any required documentation and samples in a timely fashion so that use of the parts in Crenlo production will not be impacted by missing documentation or samples.*

4.2 Changes for Existing Parts and Suppliers

Suppliers shall notify Crenlo Purchasing and Supplier Quality of any of the following planned events:

- Subcontractor or source change (even within a company)
- Change of location of subcontractor or source (even within a company)
- Design, process, or material change (including production methods)
- Tooling/fixture change
- New part or product
- Correction of a discrepancy on a previously submitted part
- Tooling has been added, repaired, or replaced
- Known quality problems including situations where a problem is found at one Crenlo plant and the problem will affect parts sent to other Crenlo plants.

The Supplier Quality Engineer at the responsible Crenlo plant will evaluate the notification from the supplier of the above changes, and generally will require one of the following submissions to approve before approving the changes:

- Production Part Approval Process (PPAP) documentation and samples
- Certificate of Conformance and associated reference documents

It is imperative that suppliers provide any required documentation and samples in a timely fashion so that the use of the parts in Crenlo production will not be impacted by missing documentation or samples.

4.3 Description of Submission Types

4.3.1 Certificate of Compliance

A Certificate of Compliance is required for proof of compliance for product characteristics that are required in Crenlo documents (e.g., UL registration). A Certificate of Compliance can be requested for any characteristic that is deemed important such as to require the verification of compliance or could be used to verify compliance of a catalog part to the characteristics given in the catalog and/or associated data sheets.

A qualified supplier designee (competent authority) must approve the Certificate of Compliance prior to Crenlo submission. This documentation will certify that product conforms to all purchase agreements and specification requirements. When certifications, inspection and testing requirements are specified, all reference documents must be sent to the appropriate email address for the given Crenlo location as shown here:

- Greenville: SupplierQuality.Greenville@crenlo.com

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- Rochester: SupplierQuality.Rochester@crenlo.com
- Watertown: SupplierQuality.Watertown@crenlo.com

These documents should be sent prior to the initial shipment to Crenlo. In addition, hardcopies of this documentation should accompany that respective shipment.

4.3.2 Production Part Approval Process (PPAP)

All suppliers of raw materials and components used in the manufacture of Crenlo products are required to submit PPAP packages and receive PPAP approval **prior to** shipments. Exceptions to this require Crenlo Engineering and Quality sign off. Unless otherwise agreed to with Crenlo Supplier Quality Engineer, supplier PPAP packages will consist of:

- Part Submission Warrant (Appendix A)
- Design Record
- Dimensional report w/ballooned print
- Material Certification(s)
- Process Flow Diagram
- Control Plan
- Performance/cycle testing documentation, if required
- Weld Study, if required
- Master Sample. This sample will be signed off by the Crenlo SQE, tagged as “PPAP Sample” and returned to the supplier. Suppliers are expected to maintain this sample at their facility.
- If PPAP submission is incomplete, a Crenlo Interim PPAP Worksheet must be included (Appendix B)

The default level for all submissions is Level 2. Crenlo must approve any change to this submission level prior to shipment. All items that do not meet specification shall be clearly identified on the *Interim PPAP Worksheet* and a Crenlo pre-approved action plan for each discrepancy shall accompany the submission.

The signed PSW and supporting PPAP information should be emailed prior to submission of samples. The supplier shall send this information to the appropriate email address for the given Crenlo location as shown here:

- Greenville: SupplierQuality.Greenville@crenlo.com
- Rochester: SupplierQuality.Rochester@crenlo.com
- Watertown: SupplierQuality.Watertown@crenlo.com

Samples or the first shipment submitted for approval shall be packaged separately from production shipments and identified as “Production Part Approval”. A copy of supporting information including the signed PSW and submitted PPAP information should be included with the samples.

Crenlo Supplier Quality shall notify the supplier of the approval status of the production parts:

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- “Approved” - Indicates that the supplier has manufactured a part that is acceptable to Crenlo and that the submitted PPAP elements are acceptable. A Crenlo Quality Engineer will designate “Approved” on the PSW and sign the form.
- “Rejected” - Indicates that the parts submitted and the group they represent fail to meet Crenlo requirements and/or the PPAP elements submitted are not acceptable. Corrected samples and/or updated PPAP submissions shall be submitted and approved **prior to** shipment of production quantities. Disposition will be authorized by a Crenlo Quality Engineer.
- “Other” – to be used for Interim PPAP approval. Indicates that the PPAP package has not been accepted in its entirety, but that the incomplete or non-conforming items are low risk and the supplier is approved to start shipments to Crenlo plants. In the case of an Interim PPAP approval, there will be a separate action item list created to track outstanding deliverables to bring the PPAP package to “Approved.”

Note: Crenlo required PPAP paperwork should be submitted electronically prior to the initial shipment. Products received without required approvals will be considered non-conforming and placed on hold.

5. Delivery, Packaging, Shipping, Receiving

5.1 Delivery

Suppliers are required to deliver the ordered quantity, on-time, to the correct Crenlo facility. “On-Time” delivery is defined as a product delivery received on the contracted delivery date provided by the Crenlo purchase order. The delivery date listed on the purchase order is the date Crenlo recognizes as the date the material needs to be on dock at the respective Crenlo facility, it is not the supplier ship date. Repeated issues with on-time delivery or packaging may result in Crenlo issuing a Supplier Corrective Action Request (SCAR – see section 6.3).

5.2 Packaging

All suppliers are expected to package product in accordance with best commercial practices to avoid shipping or storage damage. Product must be securely fastened if utilizing skids or pallets. If the product footprint is physically larger than this standard skid size, a specialized skid will need to be developed to encompass the entire product. Damage to products resulting from the failure of packaging to perform under normal transportation and storage conditions is the responsibility of the supplier. Goods must be packaged to withstand several transfers via a cross dock operation.

In specific cases, suppliers will be asked to provide Crenlo Supplier Quality and Purchasing with the packaging concept and approved by Crenlo at the early stages of program development.

No product should be larger than the standard skid footprint for a given Crenlo location. The standard footprints are as follows:

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- Greenville, TN: 48" x 42"
- Rochester, MN: 48" x 32"
- Watertown, SD: 48" x 42"

Parcels in excess of 30 lbs. should be on skids or pallets to permit mechanical handling and avoid product damage. Maximum weight for skids/pallets is 1500 pounds. Materials subject to corrosion, contamination, etc., shall be treated per Crenlo purchase agreement, blueprint and/or item specification. Shipments shall meet all applicable shipping laws, codes, and regulations.

If banding is needed for a shipment, the preferred banding material is plastic. No metal banding will be accepted unless prior authorization is given by Crenlo.

Roll-over Protection Structures (ROPS) controlled material is discussed in section 6.9 along with the labeling and packing slip requirements for these shipments which is included in the following paragraphs. *Mixing of ROPS controlled product lot numbers or part numbers is prohibited. Different heat numbers should not be on the same pallet.*

All deliveries must be shipped to the receiving dock and require an error free legible, easily accessible packing slip, correct label, heat number when required, correct quantity, and correct product. Carton/box/container labels should be bar code standard compliant, in *English*, and contain the following information:

- Crenlo Purchase Order Number (include Release or Line number if applicable)
- Crenlo Part Number and revision level
- Quantity (must match quantity on Packing List)
- Approved Heat Number (when applicable)
- Country of Origin (The Procurement Team to determine if required)
- Box/roll number (if multiple boxes/rolls in shipment)
- Bar Code (must be legible and contain Crenlo Part Number, Qty, Supplier Number, and PO) Industry standard barcodes indicate identification to be:
 - A or K in front of Purchase Order
 - P in front of Part Number
 - Q in front of Quantity
 - V in front of Supplier

Note: Materials subject to OSHA Hazard Communication or Right-to-Know regulations shall be delivered with appropriate labeling and a Material Safety Data Sheet (MSDS). MSDS documentation is expected prior to new shipments and shall be included on initial shipments or upon request from Crenlo.

All product delivered to Crenlo docks must be in a van or curtain style trailer.

5.2.1 Steel-Specific Packaging Requirements

Steel has additional packaging requirements as delineated below. The following are two requirements that apply to all Crenlo locations:

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- Heats should not be mixed within each bundle
- Steel must be protected during shipping with either the use of tarping or by using a Conestoga trailer.

In addition to the above general requirements, requirements that are specific to each location are listed below:

5.2.2 Crenlo Plant-Specific Requirements

Greeneville, TN:

- Forklift, side unload
- Require pallets for anything thinner than 14GA & Stainless Steel
- 4x4 wooden cross blocks, minimum of 3 used
- 2 bands toward edges in both directions (4 total) - plastic
- Edge protectors should be used under banding, and banding should be around the sheet bundles only (and not over any blocks)
- Tags identifying every bundle with the following at a minimum: Part Number, Description, Heat Number, Quantity, PO Number, and Supplier Name
- Plate: processor should ink part number and heat number on plates when cutting the coil steel.
- 4x4 cross blocks, min of 3
- Height of bundles not to exceed 90mm/3.5"
- Max bundle weight = 3500 lbs.

Rochester, MN Requirements:

- Sheet lifter with max of 3000 lbs.
- 2x4s as runners with 3 runners required for 60" wide material and 2 runners required for 48" material – may have Part Number specific requirements
- 2 bands toward edges in both directions (4 total) – plastic preferable
- Tags identifying every bundle with the following at a minimum: Part Number, Description, Heat Number, Quantity, Purchase Order #, and Supplier Name
- Plate: processor should ink part number and heat number on plates when cutting the coil steel.
- Max bundle weight = 3000 lbs.

Watertown, SD Requirements:

- Forklift, side unload
- Require pallets for anything thinner than 14GA & Stainless Steel
- 4x4 wooden cross blocks
- 2 bands toward edges in both directions (4 total) – plastic
- Banding should be around the sheet bundles only (and not over any blocks)
- Tags identifying every bundle with the following at a minimum: Part Number, Description, Heat Number, Quantity, Purchase Order #, and Supplier Name
- Plate –Plate processor should ink part number and heat number on plates when cutting the coil steel.

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- 4x4 cross blocks, min of 3
- Height of bundles not to exceed 90mm/3.5"
- Max bundle weight = 5000 lbs.

5.3 Shipping

Suppliers are expected to follow the below requirements for all material/product deliveries:

Domestic Shipments:

- Shipments of parcel size with total weight less than 150 lbs., please ship according to the site requirements which can be found in the routing guide. You can obtain a routing guide by contacting your Crenlo Buyer.
- Shipments greater than 150 lbs., or that are unable to be packaged as a parcel shipment, shall be set up using our 3rd Party Logistics Provider.
- Phone: 800-428-5377 x1933
- Suppliers that schedule pick up with Crenlo’s dedicated cities truck will continue to ship this way, unless otherwise notified.

International Shipments:

- For all International Ocean shipments, contact Emilee Strassburg Emilee.Strassburg@expeditors.com and / or Jin Kim JIN.KIM@expeditors.com for further instructions / information.
- All Air Shipments need approval from Crenlo prior to shipping.

Any expedited shipment charges, without Crenlo approval, shall be the responsibility of the supplier and deliveries must arrive “freight prepaid”. Freight terms shall be FOB Supplier to the correct Crenlo receiving point. Suppliers are responsible for on-time delivery regardless of routing. All communicated due dates are recognized as delivery dates, not shipping dates.

Pallet stacks must not exceed 6’ in height due to Crenlo safety requirements. Any pallets that exceed the 6’ limit will not be received.

Packing slips must accompany each shipment and contain at a minimum:

- Crenlo Purchase Order Number (include Release or Line number if applicable)
- Crenlo Part Number and Revision Level
- Supplier Number
- Quantity Shipped
- Approved Heat Number (when applicable)

Note: Damaged OSHA Hazard or Right-to-Know regulated products will not be accepted.

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5.4 Receiving

Transportation vehicles used for the delivery of product shall be accountable for damage to Crenlo property; including but not limited to, damage to physical buildings, dock equipment, or the clean-up of any chemical spill from the delivery vehicle of contents of that vehicle. In such cases, charges for repairs or clean-up will be submitted to either the Transportation Company or supplier dependent on purchasing agreement and/or contract terms.

Note: Pallet stacks must not exceed 6’ in height due to Crenlo safety requirements. Any pallets that exceed the 6’ limit will **not** be received.

6. Quality

6.1 Nonconformances

A Nonconformance is issued to document nonconforming quality incidences; and these can be generated and issued at any stage in Crenlo’s supply chain process. A nonconformance is generally defined as a deficiency in characteristic, documentation, or procedure, which renders the quality of a product or service unacceptable. Examples of nonconformances are physical defects, test failures, inadequate documentation, and deviations from prescribed processing (PPAP) or from any other part of the program. A SCAR may also be issued for nonconformances as described in section 6.3.

6.1.1 Sorting/Rework

Crenlo reserves the right to initiate sort, scrap, rework, or repair activities with or without prior authorization from the supplier to protect customer builds.

If sort and/or rework of defective material is required and the supplier chooses to subcontract the work, the supplier may be responsible for appropriate supervision.

Supplier Deployed:

If sorting or rework is required at Crenlo or customer facilities, the supplier shall be contacted by the Supplier Quality Engineer, Quality Engineering or Supply Chain Management. The supplier must provide trained personnel and must contact Crenlo Supply Chain Management, the SQE, or designee prior to entering Crenlo manufacturing facilities. Safety equipment must always be worn (metatarsal guard safety shoes, safety glasses, ear plugs, hard hats, etc.). Supplier personnel will be required to review Crenlo’s Safety Video. It is the supplier’s responsibility to provide evidence of workers compensation insurance coverage upon request for the workers representing their company while at a Crenlo facility.

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Crenlo Deployed:

Any rework/sorting, materials, and/or administrative time performed in-house by Crenlo personnel shall be charged back to the supplier unless previously negotiated in the contract. All efforts will be made to obtain supplier pre-approval. Additional travel time and expenses will be added if this activity is performed at the customer facility.

6.2 Material Returns (Return Material Authorization - RMA)

When nonconformances are found, Crenlo will contact the supplier electronically requesting an approved Return Material Authorization (RMA) form. **Suppliers must acknowledge the RMA request within one (1) business day, and the supplier is expected to forward the approved RMA to Crenlo for material disposition within three (3) business days.**

Any material left on Crenlo premises over five (5) business days, will prompt Crenlo to either scrap or return the material at the supplier’s expense. Electronic written exceptions shall be submitted to the Crenlo Procurement Team prior to five (5) working days and dependent on review.

For any situations that require SCARs, Sorting, Rework, etc., fees or charges may be gathered for the below reasons and be delineated during the RMA request which will include the SCAR form listing the current estimate of fees:

- SCAR Processing fees
- Crenlo sort charge
- Crenlo rework - repair fees
- Crenlo field service contractor or agent fees
- Support staff labor
- Material handling fees
- Overtime expenses to prevent production disruption
- Lost line time
- Assembly scrap fees
- Containment and tear down of built product fees
- Scrap Disposal fees
- Late shipment fees
- Stock-out fees
- Expedited freight costs
- Shipping charges for original shipment

6.3 Supplier Corrective Action Request (SCAR)

SCARs may be issued for the following issues:

1. Any repeat nonconformance for a given part.
2. Issues that show signs of a quality system failure or supplier not following their process. This could include a high quantity of rejected parts.
3. Mislabeled containers or packing slips being missing or containing the wrong information.

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4. Any issue at a Crenlo Customer that is due to a supplier nonconformance.
5. Any time rework or containment must be done due to supplier not being able to address themselves.
6. Any time a supplier issue causes safety concerns at Crenlo or a Crenlo customer.
7. Any time the wrong parts are shipped, and this results in missed shipments to a Crenlo customer or a line shutdown at Crenlo.
8. Any time there are missing parts in a shipment, and this results in missed shipments to a Crenlo customer or a line shutdown at Crenlo.
9. Any time there is an over-shipment of parts.
10. For issues deemed by the plant Supplier Quality Engineer (SQE) to warrant a formal corrective action.

The issuing Crenlo representative shall email the SCAR, or otherwise notify the supplier of the problem. The supplier shall initially comply with the following actions:

- Initiate containment and inspection of all suspect material including product in route, at the Crenlo plant or at the customer location.
- Post evidence of customer concerns at appropriate locations.
- Identification of each container/box of certified product with green dots to signify product has been inspected 100% and clean date established for immediate counter-measured parts.
- Implement immediate corrective action to eliminate the discrepancy.

The above immediate containment and short-term corrective actions implementations must be completed within 24 hours of the SCAR notification. The short-term corrective action must remain in place until the long-term corrective action is implemented.

After initial containment and short-term corrective action implementation, the supplier should initiate their root cause investigation. It is expected that the supplier will employ traditional root cause analysis tools to get to the true root cause. These tools could include the following: Process Map identifying key inputs and outputs of each affected step, 5-Why's, "Fishbone" Cause and Effect, FMEA, Fault Tree Analysis, etc.

Once the supplier has determined the root cause, they should determine a long-term corrective action which will eliminate the root cause of the nonconformance. The root cause and long-term corrective action should be detailed on SCAR form and returned to Crenlo. This response including the root cause and long-term corrective are due 30 days from the SCAR notification.

A lack of a response to a SCAR response can lead the Crenlo Quality Dept. to issue a second Supplier Correction Action Request (SCAR) which will jeopardize the supplier's scorecard and approval standing. Additional administrative fees above the normal charges may be levied if further SCARs are issued due to non-responsiveness. Negligent and non-responsiveness to SCAR requests may ultimately jeopardize supplier standing and repeat business eligibility.

Although not required as part of the formal SCAR response back to Crenlo, the supplier is required to review the effectiveness of their long-term corrective action sixty days after the

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SCARs is initiated, and if the corrective action is ineffective, the supplier shall engage in another root cause analysis to determine an effective corrective action. Crenlo will also review the effectiveness of the corrective action for materials received after the long-term corrective action.

6.4 Non-Conformances/Late Product Identified at Customer – External costs

Non-conforming products that are identified by Crenlo’s customer and attributed to purchased components will have a negative impact on supplier performance and will be subjected to charge backs. This is extremely unacceptable if the customer experiences a line shut-down due to nonconforming or overdue supplier product. Not only are internal costs incurred, but the potential loss of recurring or new customer sales is a high concern and elevates customer relationship activities. Any charges/costs incurred by Crenlo due to supplier issues at our customer will be passed directly to that supplier.

6.5 Supplier Quality System

All suppliers are expected to establish goals toward overall improvement in quality, cost, commercialization, and service that optimizes customer satisfaction. Deployment of an effective Quality System which defines and documents all activities affecting quality throughout the product process is considered performance improvement and can be realized and recognized by achieving ISO certification through 3rd party registration. While not required to be certified to ISO:9001 (or greater), at minimum, suppliers must have a Quality Management System that is compliant to an international standard.

Approved suppliers are expected to remain current and comply with the Automotive Industry Action Group’s (AIAG) standardized manuals that encompass procedures, formats, and technical nomenclature (ISO 9001/IATF:16949). Copies of the above-mentioned standards can be obtained through American National Standards Institute (ANSI), AIAG, and the American Society for Quality (ASQ). Suppliers are encouraged to maintain technical accreditations for applicable skills and competencies.

The supplier is responsible for the quality of materials and components provided by their sub-tier suppliers and subcontractors. This includes responsibility and commitment to ensure all products received at Crenlo is not counterfeit or refurbished. An effective plan to identify, recognize, or detect counterfeit material is highly recommended. All suppliers and their sub-tier suppliers shall provide full access to Crenlo Quality Assurance and the Procurement Team for quality audits as deemed necessary by Crenlo or their customers.

6.6 Manufacturing

The supplier is responsible for ensuring all materials regardless of manufacture by subcontractor; meet all the technical requirements for form, fit, function, and methods specified by Crenlo documents. The supplier shall ensure that the product meets all specified requirements prior to shipment to Crenlo. In addition, the supplier shall ensure all required documents (including

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ASTM standards) are the current revision for manufacturing Crenlo products. Paint compatibility studies are to be performed by a Crenlo Finish Engineer for any new or process modified product.

The supplier is responsible for the development of suitable gages/check fixtures and measuring/test equipment for optimum process monitoring.

For ROPS controlled product with new heat numbers not previously approved, the supplier must submit the mill test information for that new heat prior to shipment to Crenlo (reference section 6.9. ROPs materials with different heats must not be mixed in manufacturing or shipping.

It is the supplier’s responsibility to ensure that their product complies with all applicable regulatory agency and product safety requirements. If safety compliance is required (i.e., Restriction of Hazardous Substances - RoHS), suppliers must demonstrate/maintain records that adequate process controls for these characteristics are implemented. The worldwide standard for RoHS is available under QC-080000 National Standard Authority of Ireland (NSAI).

All nonconforming products must be conspicuously identified and contained within the supplier facility to prevent inclusion with conforming product.

6.7 Calibration/Verification

All supplier measuring and test equipment, including tooling and fixtures used to determine product conformance, must be maintained and calibrated at established intervals.

All gages must be calibrated to be traceable to NIST, or similar authority when outside the U.S. Outside calibration services must be certified to ISO/IEC 17025. Procedures for use and calibration of the gages must be available and records of calibration results must be maintained (reference section 6.13).

Whenever possible, gages should have the capability to measure accurately within 1/10 of the tolerance being measured.

Gages implemented to validate key features of product must be evaluated per ISO:9001 MSA requirements. The ANOVA or Range methods are the preferred methods for gage evaluation. Gage variability must be less than 20% of the product tolerance whenever possible.

6.8 Tooling

Any Crenlo or Crenlo customer-owned tooling on loan to suppliers is “Proprietary,” cannot be viewed or shared with any Crenlo competitor and cannot be used to produce parts for non-Crenlo companies without written authorization from Crenlo. Suppliers are to maintain tools appropriately and returned to Crenlo when the project is completed or upon request. All Crenlo and Crenlo customer owned tools are to be identified at a minimum with the Crenlo part and tooling number. Tooling shall not be destroyed without written permission from the Crenlo VP of Supply Chain, and the supplier must keep a copy of this authorization permanently.

Drawings and all electronic data associated with Crenlo owned tooling shall be supplied to Crenlo upon request. A log shall be maintained; tracking tool maintenance (date and description of

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maintenance), condition, and location. In addition, a Preventative Maintenance program must be in place and conducted at prescribed intervals (see section 6.12).

Tooling cards, tooling identification, and pictures are required at the time of PPAP going forward for any Crenlo-owned or Crenlo Customer-owned tooling.

6.8.1 Tool Invoices

The supplier shall include a photograph of the respective tool when submitting an invoice to Crenlo.

Large tool invoices \geq \$15,000 will typically be paid incrementally:

- 33 1/3% paid upon purchase order initiation
- 33 1/3% paid upon PPAP acceptance and receiving tooling cards and pictures
- 33 1/3% paid net 60

All other tool invoices will be paid in full upon invoice acceptance.

6.9 Roll-over Protection Structures (ROPS) Compliance

All ROPS submissions must comply with Crenlo ES-229. For ROPS controlled product with new heat numbers not previously approved, the supplier must submit the mill test information for that new heat prior to shipment to Crenlo. The supplier shall send the Mill/Certified test reports prior to the receipt of shipment at Crenlo to the appropriate email address for the given Crenlo location as shown here:

- Greenville: Steelcerts.Greenville@crenlo.com
- Rochester: Steelcerts.Rochester@crenlo.com
- Watertown: Steelcerts.Watertown@crenlo.com

Heat information must be clearly identified for each part.

Note: Do not mix ROPS heat numbers within a part container or shipment.

6.10 Engineering Change

An engineering change is a Crenlo initiated design or process alteration that would be indicated through revision control on respective documents (e.g., Purchase Agreements, blueprints, or Supply Chain contracts). Suppliers are required to submit a Certificate of Conformance or PPAP documentation (see section 4.2) with the respective subsequent shipment. Supplier proposed engineering changes, based on Continuous Improvement initiatives, will be generated and guided through the Crenlo procedures by the Procurement Team or Design Engineering. If accepted, a formal Engineering Change Order will be generated.

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6.11 Temporary Deviation (TD)

The supplier shall contact the Crenlo Supplier Quality Engineer electronically when requesting a Temporary Deviation (TD). Temporary Deviations are required for any product that does not conform 100% to Crenlo specifications, purchase orders, or prints. The TD request shall include the following information:

- Affected supplier facility name/location
- Crenlo part number(s) affected
- Part description
- Proposed deviation effective date (From: dd/mm/yyyy to dd/mm/yyyy)
- Proposed affected part quantity (No. of units/pcs)
- Description of deviation with supporting data related to fit, form and function
- Reason of deviation
- Corrective action plan to resolve the deviation

Temporary Deviations must be approved **prior to** supplier shipment. Suppliers are required to submit the approved TD documentation with the subsequent shipment(s). All shipping containers of nonconforming product shall be identified as “Deviated Product”. Upon TD expiration of a nonconforming product, the supplier shall submit a PPAP package indicating the nonconformance is corrected (see section 4.).

6.12 Preventative Maintenance

All suppliers shall have an implemented Preventative Maintenance Program to ensure continuous, uninterrupted supply chain of products. In addition, these efforts typically prevent expensive break-down repair, extensive manufacturing down-times, and missed delivery commitments. This program should contain at a minimum:

- Procedure to describe maintenance activities
- Schedule depicting maintenance activities
- Predictive maintenance methods
- Availability of replacement parts for key manufacturing equipment

6.13 Records

Supplier must maintain appropriate records on file according to the requirements of Crenlo, suppliers or regulatory agencies and traceable to Crenlo Purchase Orders. Table 1 Shows Crenlo’s minimum record retention requirements:

Table 1 Record Retention Requirements

Record	Retention Period
Certificates of Compliance	Indefinitely
Engineering Change Order (ECO) approved	2 years
Performance Testing	Permanent
Training Records	Duration of Employment

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Steel Certifications	1 year
Mill Reports	Indefinitely
Crenlo Nonconformances	Life of part
Supplier Corrective Action Report (SCAR)	Life of part
Calibrations Records	5 years
Crenlo Authorization to Destroy Tooling	Permanent

Table 1 Record Retention Requirements

6.14 Obsolescence

Manufacturing is a dynamic environment and changes are to be expected. Claims will be reviewed and analyzed for appropriate disposition within thirty (30) days.

6.15 Storage and Inventory

Crenlo expects suppliers to have an internal process to assess the condition of product in stock at appropriate planned intervals to detect deterioration and shelf-life integrity. Suppliers should utilize an inventory management system to optimize inventory turns over time and assure stock rotation, such as First-In-First-Out (FIFO). Supplier is responsible to ensure appropriate measures are in place to preserve product until used in the final product.

7. Safety Considerations

Suppliers are required to maintain a clean and safe work environment to produce Crenlo supplied materials. All products must be packaged in a manner to be handled safely. Subsequent Crenlo suppliers or customers are to be free of handling hazards or other risks of injury. The risk of unforeseen disruption of production due to safety considerations must be planned for and the associated risk mitigated. To support a safe working environment, Crenlo will collaboratively support product revisions necessary to accommodate safe manufacturing.

8. Supplier Performance Management

8.1 Supplier Scorecards

Supplier scorecards will be sent to direct suppliers every quarter with the purpose of objectively measuring supplier performance for key metrics during that quarter. Scorecards will be based on data from a six-month period that ends on the last day of the quarter scored. Scorecards will be based on the following two broad elements with the weighting shown:

- Delivery – 45%
- Quality – 55%

The Quality element will be determined from the following measures with the weighting shown:

- PPM – 75%
- Number of SCARs Issued – 15%

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- SCAR Responsiveness – 10%

All these measures and scoring will be explained in more detail in the following section.

8.2 Scorecard Elements and Scoring

The scoring of each element is described below.

8.2.1 Delivery Score

On-Time Delivery (OTD) percentage will be measured using the Original Promise date compared the Receipt date. For the overall scorecard measure, this percentage will used to calculate the 45% weighted delivery score that is part of the final overall scoring. In addition, delivery performance will be characterized as shown in Table 3 based on the six-month OTD percentage.

Table 2 – Delivery Performance	
OTD Percentage	Delivery Performance Description
100%	Excellent
98.10% - 99.99%	Very Good
95.00% - 98.00%	Satisfactory
93.00% - 94.99%	Marginal
< 92.99%	Unsatisfactory

Table 2 Delivery Performance

8.2.2 Quality Score

PPM

PPM is a key metric that will be used to evaluate supplier quality performance. PPM is the number of defects per one million parts supplied and is calculated with the following formula:

$$PPM = 1,000,000 \times (\# \text{ of Defective parts} / \# \text{ of parts received})$$

Table 5 shows how the six-month PPM calculation will be translated into the PPM score.

Table 3 – PPM Scoring	
Criteria	PPM Score
PPM ≤ 100	100%
100 < PPM ≤ 500	99%
500 < PPM ≤ 1000	97%

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1000 < PPM ≤ 2000	94%
2000 < PPM ≤ 20000	90%
> 20000	80%

Table 3 PPM Scoring

Number of SCARs Issued

The Number of SCARs issued in the six-month period will be used to determine the score for SCARs per the following formula:

SCAR Score = 100 – 1.25 x (# of “SCARs” issued). Minimum score = 90.

SCAR Response Time

A supplier is expected to provide a corrective action response to Crenlo within thirty days. Late SCAR responses within the six-month period will reduce SCAR Responsiveness scoring as shown in the following formula:

SCAR Responsiveness Score = 100 – 1.25 x (# of “SCARs” not responded to within 15 business days). Minimum score = 90.

8.3 Quality Scoring

Quality performance will be characterized as shown in Table 4 based on the six-month quality scoring:

Table 4 – Quality Performance	
Quality Score	Quality Performance Description
100%	Excellent
99.00% - 99.99%	Very Good
97.60% - 98.99%	Satisfactory
94.50% - 97.50%	Marginal
< 94.49%	Unsatisfactory

Table 4 Quality Performance

8.4 Overall Scores and Ratings

Based on the elements and weightings described above, an overall score will be computed. Table 5 shows the score ranges corresponding to five ratings. In addition, the table provides a description of each rating status and information on how suppliers with each rating will be handled

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including any actions required. In general, these ratings will be used to drive new sourcing decisions, but as shown in this table, the Supplier of the Year and Certified Suppliers (to be discussed in sections 8.5 and 8.6) will be given highest priority. In addition, although suppliers with “Excellent” and “Very Good” ratings will be given priority in sourcing, other factors such as responsiveness to Crenlo stakeholders that interface with the supplier, invoice accuracy issues, pricing, cost of poor quality, credit terms, etc. will also be considered in these decisions.

Suppliers that receive an “Unsatisfactory” rating for a given quarter will be required to fill out a supplier improvement corrective action plan, and suppliers with a “Marginal” rating may be required to fill out a supplier improvement corrective action plan. Suppliers will be directed to provide these improvement plans when the scorecards are distributed in the given quarter.

Suppliers will be given a time period for disputing their scoring when scorecards are distributed. This time period will typically be the time for submission and approval of any requested changes by Crenlo and will generally be 15 business days.

Table 5 – Overall Rating		
Overall Score	Scoring Ratings	Supplier Status and Use in Sourcing
100%	Excellent	Platinum Status Supplier - Supplier will be a primary source (after the Supplier of the Year and Certified Suppliers) for new parts and will be given priority in the selection process for all approved parts.
98.00% - 99.99%	Very Good	Preferred Supplier – Supplier will be a primary source (after the Supplier of the Year, Certified Suppliers and Platinum Status Suppliers) for new parts and will be given priority in the selection process for all approved parts.
96.55% - 97.99%	Satisfactory	Satisfactory Supplier – Supplier has provided adequate support to Crenlo. The supplier will be considered when sourcing new parts.
94.1% - 96.54%	Marginal	Marginal Supplier - The supplier will not be eligible for new sourcing until improved on quarterly scorecard or if approved by the Crenlo Vice President of Supply Chain. A supplier improvement corrective action plan may be required.
< 91.99%	Unsatisfactory	Unsatisfactory Supplier - If the score does not improve within the next quarter, Crenlo may exercise the option to cancel open orders at any time. The supplier will not be eligible for sourcing of new parts until the supplier improvement plan is completed and is approved for sourcing by the Crenlo Vice President of Supply Chain. A supplier improvement corrective action plan will be required. The supplier may be

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		required to submit weekly updates on the status of corrective actions and may be required to have weekly meetings to discuss status of these corrective actions. An on-site audit of the supplier may be required.
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Table 4 Overall Rating

8.5 Supplier Certification

Suppliers are expected to score well in the quarterly scorecard process because the scorecard elements represent the basic quantitative performance expected from suppliers. To measure other criteria that are often more qualitative in nature and to assess and reward suppliers that add extra value beyond the basic expectations, Crenlo will rate some suppliers once a year to determine which suppliers performed well in areas beyond the basic scorecard performance. This process will lead to some suppliers being recognized as Certified Suppliers for the year as well as the selection of a Supplier of the Year.

Two groups of suppliers will be evaluated in this manner every year:

1. Strategic suppliers chosen by the Procurement Team.
2. Any supplier that achieves a minimum of two “Excellent” and two “Very Good” scorecard ratings within the year will be allowed to submit any project or accomplishment that was truly above the basic performance level and added extra value beyond the basics expected. Crenlo will evaluate any of these submissions and will allow those meeting these criteria to be eligible for this Certification evaluation.

It should be noted that suppliers that do not offer Net 60 Credit Terms will be ineligible for Certification unless approved by the Crenlo Vice President of Supply Chain.

Certification will be determined based on the following factors:

- Acceptable scorecard results
- Cost Improvement Initiatives
- Responsiveness to Crenlo communication and documentation requests
- Invoice Accuracy during the year
- Delivery performance including flexibility and how often expedited shipping is required.
- Providing value which is a measure of enhancing the value of the product being received by Crenlo. An example would be an internal project that greatly reduced the lead-time of a part.
- Providing value to assist Crenlo development or production to lower costs, improve productivity, etc. An example would be giving design input during development phase of design inputs that could greatly reduce costs.
- Demonstration of continual improvement of quality and service which will assist Crenlo in continually improving the satisfaction of our end customers.

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The above elements will be scored by internal stakeholders at Crenlo with 50 available points. Suppliers that achieve scoring of 42 out of the 50 points will receive Certification status for the year.

Certification can be removed at any time if a supplier scores below “Very good” level scorecard ratings for any given quarter.

8.6 Supplier of the Year

One “Supplier of the Year” award will be given annually. All certified Suppliers will be considered for this award. The award will be based on input from all key stakeholders within Crenlo.

8.7 Sourcing Priority for Supplier of the Year and Certified Suppliers

The Supplier of the Year and Certified Suppliers will be given priority for sourcing of new and existing parts and services.

9. Special Considerations for Service Suppliers

Service suppliers will initially be evaluated and selected using the supplier selection criteria outlined above. Service suppliers will be re-evaluated after initial selection during the bid process for new work. Purchasing will consider the service and quality performance along with the new quoted pricing during the bid process to evaluate whether they will continue to use this supplier. Typically, purchasing will receive bids from at least three suppliers during this process, but exceptions will be made depending on factors including the type of service and whether other competitors exist for this type of service.

Although freight vendors will not be measured with quarterly scorecards, claims may be filed against freight vendors for quality issues that are caused by them. In addition, freight vendors could receive SCAR requests for significant or ongoing issues.

Critical service suppliers such as calibration and freight vendors may be eligible for Supplier Certification as described above.

Calibration vendors are required to have a current accreditation to perform calibrations for Crenlo. Therefore, calibration vendors will have to provide proof of accreditation each year and will not be certified without this yearly update.

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Appendix A: Part Submission Warrant (PSW) (Form QA-159)



Part Submission Warrant

Part Name _____ Customer Part Number _____
 Tool PO Number _____ Engineering Drawing Change Level _____ Dated _____
 Additional Engineering Changes _____ Dated _____
 Shown on Drawing Number _____ Purchase Order Number _____ Weight (kg) _____
 Checking Aid Number _____ Engineering Change Level _____ Dated _____

ORGANIZATION MANUFACTURING INFORMATION

Supplier Name and Supplier Code _____
 Street Address _____
 City _____ State _____ Zip _____

SUBMISSION INFORMATION

Dimensional Materials/Functional Appearance
 Crenlo Location: Rochester Watertown Greenville
 Buyer/Buyer Code: _____
 Application _____

Note: Does this part contain any restricted or reportable substances? Yes No
 Are plastic parts identified with appropriate ISO marking codes? Yes No

REASON FOR SUBMISSION (check at least one)

- Initial Submission
- Engineering Change(s)
- Change in Part Processing
- Correction of Discrepancy
- Tooling Inactive > than 1 year
- Change to Optional Construction or Material
- Sub-Supplier or Material Source Change
- Tooling: Transfer, Replacement, Refurbishment, or Additional
- Parts Produced at Additional Location
- Other: _____

REQUIRED ELEMENTS

Item Description	Requirements		Item Description	Requirements	
	Required	Not Required		Required	Not Required
Part Submission Warrant	✓		Control Plan	✓	
Design Record	✓		Performance/Cycle Testing Documentation (if required)	<input type="checkbox"/>	<input type="checkbox"/>
Dimensional report w/ Bubble Print	✓		Weld Study (if required)	<input type="checkbox"/>	<input type="checkbox"/>
Material Certification(s)	✓		Master Sample	✓	
Process Flow Diagram	✓				

Additional Requirements/Instructions: _____

Declaration:
 I affirm that the samples represented by this warrant are representative of our parts and have been made to the applicable customer drawings and specifications and are made from specified materials on regular production tooling with no operations other than the regular production process. I also certify that documented evidence of such compliance is on file and available for review.

Explanation/Comments: _____

List Molds/Cavities/Production Processes _____

Organization Authorized Signature _____ Date _____

Print Name _____ Phone No _____ Email: _____

The Required PPAP Submission Elements and Signed PSW should be emailed to: _____
 Any Required Samples should be marked as "Production Parts Approval" and sent along with the PPAP documentation & Signed PSW to: _____

Crenlo Contact _____ Address _____ City _____ State _____ Zip _____

FOR CUSTOMER USE ONLY	
PPAP Warrant Disposition: <input type="checkbox"/> Approved <input type="checkbox"/> Rejected	Comments: _____
<input type="checkbox"/> Other _____	
Customer Signature _____ Date _____	
Print Name _____	

01/12/23 QA159

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Appendix B: Interim PPAP Worksheet

<u>PPAP Recovery Worksheet</u>				
Crenlo	CUSTOMER NAME: _____		PART NAME: _____	
	SUPPLIER VENDOR CODE: _____		PART #: _____	
	INTERIM APPROVAL EXPIRATION DATE: _____		Engineering Change Level _____ DATE: _____	
	RESUBMISSION DATE: _____			
	Crenlo Program _____			
PPAP SUBMISSION LEVEL: _____ KG WT: _____				
Crenlo	Section 1 Master Status			
	Master Status: Select status being requested and complete section 2 as applicable (Shade or circle box) IA Lab Status: Enter appropriate status for each lab (AP = Approved, IA = Interim Approved, RJ = Rejected, N/A =Not Applicable) DIM/STAT: _____ PERF TEST _____ APPEARANCE: _____ MTL: _____			
Crenlo	Section 2 - Action Plans - MUST be completed - Additional sheets attached as necessary			
	ISSUES: List ALL reasons why component part(s) have not achieved FULL PPAP status. Refer to Crenlo PPAP Assessment Checklist for element.	ACTION PLANS to reach Full PPAP and Owner for each:	Comp. Date:	Containment Plan
Crenlo - Internal	CUSTOMER APPROVALS: (as applicable)			
		SIGNATURE	NAME (Print)	PHONE
	Supplier Quality Engineer:	_____	_____	_____
	Project Engineer:	_____	_____	_____
	Validation Engineer:	_____	_____	_____
Program Buyer	_____	_____	_____	

EFFECTIVE DATE :	REV.	TITLE: Supplier Quality Manual	
Feb. 1, 2023	2	OWNER: David Kinkade	



Document Approvals

Edward G. Jackson

Edward Jackson
VP-Purchasing & Supply Chain

David Kinkade

David Kinkade
VP-Quality

EFFECTIVE DATE :	REV.	TITLE: Supplier Quality Manual	
Feb. 1, 2023	2	OWNER: David Kinkade	



Document Revision History

Rev	Description of Change	Effective Date
0	Initial release	10/02/2012
1	Combination of Supplier Quality Manuals from merged companies to form Crenlo	9/1/2020
2	Major revisions – added/deleted sections	2/1/2023

EFFECTIVE DATE :	REV.	TITLE: Supplier Quality Manual	
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Attachment A - Acknowledgment Receipt of the Crenlo Supplier Quality Manual

This is to verify that you have received your new release of the Crenlo Supplier Quality Manual. Your signature and return of this acknowledgment signify your understanding and acceptance of Crenlo Supplier Quality requirements.

Company Name _____ Corporate DUNS _____

Name _____ Position _____

E-mail address _____ Phone _____

Signature _____ Date _____

Location _____

Please scan and submit this verification via e-mail to:
crenlosupplierquality@crenlo.com

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