

Section	Page Number	ISO 9001:2015 IATF 16949:2016 Clause
1.0 Management Message	1	
2.0 Scope	1	
3.0 Supplier Code of Conduct	2	5.1.1.1
3.1 Empowerment	2	5.1.1.1
3.2 Respect and Impartiality	3	5.1.1.1
3.3 Environmental Sustainability	3	5.1.1.1
3.4 Basic Working Conditions	3	5.1.1.1
3.5 Health and Safety	3	5.1.1.1
3.6 Conflict Minerals	3	5.1.1.1
3.7 Managing Chemical Substances	4	5.1.1.1
3.8 Protecting Confidential Information	4	5.1.1.1
3.9 Managing Imports and Exports	4	5.1.1.1
3.10 Anti-Bribery	4	5.1.1.1
3.11 Fair Competition	5	5.1.1.1
3.12 Diversity	5	5.1.1.1
4.0 Becoming a Supplier to Techniplas	5	
4.1 Communication	5	7.4
4.2 Supplier Contacts	5	7.4
4.3 Approval of Suppliers	6	8.4.1.2
4.4 Minimum Requirements	6	8.4.1.2
4.4.1 Minimum Requirements During RFQ Explained....	7	8.4.1.2
4.5 Quality Management System	7	
4.5.1 Potential New Suppliers	7	
4.6 EDI (Electronic Data Interchange)	8	8.4.1.3
4.7 Production Scheduling and Logistics	8	7.4
4.8 Labelling	8	8.5.1.7
4.9 Packaging	9	8.5.2
4.10 Customs Documentation	9	8.5.4.1
4.11 Arrival Notice (Mexico)	10	5.3.1

5.0 Product Launch Requirements	10	
5.1 APQP Program Development Process	10	8.3.2.1
5.2 Capacity Management	11	8.2.3.1.3
5.3 Special Characteristics	11	8.3.3.3
5.4 Prototype Program	12	8.3.4.3
5.5 Tooling and Gauges	12	8.5.1.6
5.6 Pre-Production / Pilot Requirements	13	8.3.4.3
5.7 Production Part Approval Process (PPAP)	13	8.3.4.4.
5.8 Sub-Supplier PPAP	14	8.4.1
5.9 Annual Requalification	14	9.2.2.4
5.10 Material Reporting Expectations	14	8.4.2.2
5.11 Reporting Expectations of Restricted Materials	14	8.4.2.2
5.12 Product Safety Regulations	15	8.4.2.2
5.13 Software and Software Applications	15	8.4.2.3.1
5.14 Safe Launch Plan (SLP)	15	9.2.2.4
6.0 Serial Production Process	17	
6.1 Change Control	17	8.5.6.1
6.2 Contingency Plans	17	7.5.3.2.1
6.3 Facility Access	17	
6.4 Ongoing Manufacturing Process Audits	18	9.2.2.3
6.5 Measurement System Analysis (MSA)	18	7.1.5.1.1
6.6 Sub-Supplier Management	18	8.4.1
6.7 Record Retention	19	6.1.2.3
7.0 Supplier Performance	19	
7.1 Non-Conformance Communication	19	10.2.1
7.2 Controlled Shipping	20	8.7.1
7.3 Supplier Monitoring	21	8.4.2.4
7.4 Cost Recovery (CR)	21	
8.0 Forms, Figures and Revision Levels	22	

1.0 Management Message

March 5, 2019

With the linking of Dickten Masch Plastics, Nyloncraft, Vallotech and Weidplas into Techniplas, we have shifted our focus from one of a local perspective to a more regional and global viewpoint. With this shift in perspective, we have also had a paradigm change in our requirements to our supply chain, with a new Supplier Manual, that will be in play for all Techniplas North American manufacturing sites. This new document will implore one clear set of common requirements and expectations to all of our direct material suppliers. As we have many suppliers who ship to multiple sites, this will streamline the communication, and make it easier for those suppliers (and all suppliers) to adhere to one common set of standards. The Techniplas North America Supplier Manual directly reflects the updated requirements of IATF 16949, and any additional requirements that we see fit for our business. Its extremely important that each of our suppliers adhere to the below sections and requirements. We also have introduced a new set of North American Supplier Purchasing Terms and Conditions, which are referenced on all applicable purchase orders, and can be found at www.techniplas.com/core/resources/suppliers/. We appreciate your acknowledgement and commitment to Techniplas's requirements, and standardized documents for North America.

Respectfully,



Jim Reder

Vice President of Procurement and Supply Chain

Techniplas, LLC

2.0 Scope

The requirements of this manual apply to all suppliers providing parts, materials and services that affect customer requirements for all divisions of Techniplas. Such parts, material, or services shall be provided in accordance with the terms of the purchase order, engineering drawings, specifications, ISO9001/IATF 16949 standards and the requirements of this manual. The requirements of this manual are in addition to and do not replace any of the purchase order, engineering drawing, or specification requirements. They do not relieve the supplier of their responsibility to ensure that each part meets all requirements specified by Techniplas or Techniplas' customers.

Techniplas requires all suppliers to pass down IATF 16949 and the requirements of this manual to their suppliers and requires their suppliers to cascade all applicable requirements down the supply chain to the point of manufacture. These requirements include all applicable statutory and regulatory requirements, special product/process characteristics and embedded software requirements.

All IATF 16949 requirements including the requirements in this manual shall be addressed by the supplier's quality management system. The requirements in this manual shall be included in the scope of the supplier's certification. Compliance to this manual and IATF

16949 shall be determined by certification bodies recognized by an IATF Oversight office. The US English language version of this document shall be the official version for purposes of third party registration.

If a supplier takes exception to the requirements of this manual, ISO9001, IATF 16949, or to those specifically referenced on the request for quotation or procurement document, it is their responsibility to notify Techniplas Procurement in writing. The supplier must receive written confirmation of receipt of the exception and work with Techniplas to resolve the issue. Otherwise, Techniplas will expect full compliance to these requirements. Agreements not specified as part of procurement documentation, including this manual, are not binding. Any questions or comments concerning this manual should be directed to the responsible Techniplas buyer.

This manual is made available at www.techniplas.com/core/resources/suppliers/. Printed copies and “non-PDF” versions are considered uncontrolled documents. Techniplas suppliers are expected to remain current to requirements by frequently visiting www.techniplas.com/core/resources/suppliers/.

Normative Reference Documents

It is Techniplas’ supplier’s responsibility to ensure that they, and their suppliers, adhere to the requirements in the following AIAG publications/manuals which are available through AIAG (www.aiag.org) and/or VDA (Verband Der Automobilindustrie) available through VDA QMC (www.vda-qmc.de/en):

- IATF 16949: 2016 Quality Management Systems
- Production Part Approval Process (PPAP)
- Advanced Product Quality Planning and Control Plan (APQP)
- Potential Failure Modes and Effects Analysis (FMEA)
- Measurement Systems Analysis (MSA)
- Fundamental Statistical Process Control (SPC)
- Special Process Assessments (CQI)

3.0 Supplier Code of Conduct

Techniplas believes that the manner in which business is conducted reflects upon the people it employs and the manner in which everyone should be treated. We follow applicable country laws and regulations and we require our employees to act in accordance with the highest ethical and legal standards. From those ideas came the following Code of Ethics.

3.1 Empowerment

Strong business relationships are created by establishing mutual goals and sharing values. We encourage differentiating technologies that challenge the status quo and help support product innovation. We want to strengthen partnerships with suppliers through transparency, collaboration,

innovation and focusing on excellence. We view our supplier relationships as an opportunity to extend our enterprise and grow our business.

3.2 Respect and Impartiality

Techniplas operates in a climate of respect and impartiality. The same respect and impartiality should be extended to all suppliers who wish to compete for our business. We encourage suppliers to adopt a similar approach and expect respectful, open, honest and timely communication.

3.3 Environmental Sustainability

Techniplas believes that to create a better and prosperous future, organizations need to protect the environment which can only be achieved through the combined efforts of the industry, government and people. We are committed to environmental responsibility that leads to sustainability. To assure that our products and processes are environmentally sustainable, we expect suppliers to:

- Design and produce resource efficient products, processes and services
- Use energy resources effectively and efficiently
- Avoid environmental pollution

3.4 Basic Working Conditions

Techniplas expects suppliers and sub-suppliers to provide working conditions that comply with applicable country laws that support and uphold Techniplas' Code of Ethics and values.

- The use of child labor is prohibited; applicable laws and regulations regarding the minimum age for permission to work must be followed.
- Suppliers are prohibited from using forced labor in any form and are further prohibited from abusive practices.
- Suppliers must compensate their employees with wages and benefits that are in full compliance with applicable country laws regarding minimum wages, overtime hours, regulation of hours worked and legally mandated benefits.

3.5 Health and Safety

Techniplas prides itself in demanding the highest levels of health and safety practices in its facilities. We also expect suppliers to operate with a mindset that focuses on health and safety and the welfare of all employees, visitors or sub-suppliers. Suppliers must ensure that policies and training which help individuals safeguard themselves, and also protect surrounding property, are in place to avoid accidents and prevent injuries. Our commitment to safe practices extends throughout our supply chain. All products and services provided by suppliers will be safe and reliable as well as in compliance with all applicable government statutes, regulations and standards relating to motor vehicle safety. OHSAS (Occupational Health and Safety Assessment Series) 18001 Standard can be used for informative purposes.

3.6 Conflict Minerals

Techniplas requires suppliers to comply with all laws regarding the responsible procurement of conflict minerals and to perform their due diligence to understand the source of conflict minerals in any product

supplied to Techniplas throughout any Tier of the supply chain. Suppliers will provide all requested certifications and information relating to conflict minerals, and file all applicable reports, in such form and at such time as requested by Techniplas or our customer(s). Suppliers will also contractually require its supply chain to comply with these obligations. Information can be attained by reviewing the U.S. Congress Dodd-Frank act.

3.7 Managing Chemical Substances

Techniplas requires suppliers to take all appropriate measures to safely manufacture, process, transport, use and manage any chemical substances that have the potential to pollute the environment or cause bodily injury. Suppliers must provide all requested data concerning chemical substances, including all SDS (Safety Data Sheets). Details of how to report are outlined in section 5.11 Reporting Expectations of Restricted Materials.

3.8 Protecting Confidential information

Suppliers will take appropriate measures to protect all confidential information of customers, suppliers, third parties and our employees. Suppliers will not disclose or use any such information unless authorized to do so. Suppliers must adhere to all applicable data privacy and consumer protection laws. ISO/IEC 27000 family of IT standards help organizations keep information assets secure. This certification is not required but can be used for informative purposes. If an executed Mutual Non-Disclosure agreement does not exist (or has expired) between Techniplas and a supplier, Techniplas requests the supplier to notify Techniplas Procurement, to work to establish this very important document.

3.9 Managing Imports and Exports

Techniplas expects suppliers to adhere to all applicable international trade laws including, without limitation, import and export controls regulations and compliance with sanctions and anti-boycott laws. Specifically, among other applicable laws and regulations, we require suppliers to comply with International Traffic in Arms Regulations (ITAR) and Export Administration Regulations (EAR). Suppliers have a responsibility to ensure they comply with any similar laws and regulations in any country where they do business. In the event that our supplier is required to import any products into the United States of America, all applicable recommendations or requirements of the Bureau of Customs and Border Protection's Customs-Trade Partnership Against Terrorism (C-TPAT) initiative will be followed.

3.10 Anti-Bribery

Techniplas expects suppliers to comply with all relevant anti-corruption, anti-kickback and anti-bribery laws and regulations. The use of corporate funds, property or other resources for any unlawful or improper purpose is prohibited. Anti-corruption laws require that companies meet prescribed accounting and internal control standards and impose severe penalties including, without limitation, criminal penalties, on both companies and individuals for certain types of payments and practices. Suppliers may not give, promise or authorize any payments, either directly or indirectly, to any private person (including, without limitation, any Techniplas employee), government official, candidate for political office, or their relatives, or any political party and its agents or affiliates, which are intended to obtain new business, retain existing business or obtain any improper advantage.

3.11 Fair Competition

Techniplas promotes compliance with competition law. We consider compliance with competition law to be more than a legal requirement; it is core to Techniplas's value of integrity and responsibility. As such, we expect suppliers to comply with all competition laws. Suppliers should be aware that, although similar in their approach, there is no single global competition statute and suppliers need to comply with relevant competition laws.

3.12 Diversity

Techniplas recognizes and supports the value of fostering diversity through minority and women owned businesses. We encourage our suppliers to implement programs that will drive sourcing to diverse suppliers fostering the growth and prosperity of these companies.

4.0 Becoming a Supplier to Techniplas

4.1 Communication

Clear, consistent and fact-based communication between Techniplas and its suppliers is essential for our mutual success and building a strong relationship. In the spirit of clear communication, it is extremely important that our suppliers understand who at Techniplas has responsibility and authority for approving certain business circumstances. If a supplier needs guidance or assistance in resolving issues Techniplas provides and encourages escalation:

- Techniplas Procurement has responsibility for all commercial matters, pertaining to direct materials. Suppliers must not take any action that would have commercial consequences or changes, nor discuss any commercial topics without Procurement involvement – specifically quotes and RFQ's that may not come from Procurement. This will not be tolerated, and may result in New Business Hold status. If a supplier has any questions, concerns or needs guidance on who is an authorized Procurement team member, reach out to Jim Reder, VP of Procurement and Supply Chain. His email is jim.reder@techniplas.com.
- Techniplas Quality has responsibility for all quality related matters. Each Techniplas facility has a Quality Manager who has the authority to discuss and approve any quality related topics. Suppliers must not make any changes to a product or process without the approval of the site Quality Manager. If a supplier has any questions, concerns or needs guidance, reach out to Shane Butcher, Director of Quality for Techniplas North America. His email is shane.butcher@techniplas.com.
- Techniplas Engineering has responsibility for all technical related matters and topics. We have engineering resources in each of our facilities, but the lead for a particular project may be located in a different Techniplas facility, based on product line and expertise. If a supplier has any questions, concerns or needs guidance on who is an authorized Engineering team member, reach out to Jim Capiak, VP of Engineering. His email is jim.capiak@techniplas.com.

4.2 Supplier Contacts

Techniplas requires suppliers to provide the contact names, phone numbers and email addresses for:

- CEO/President
- Plant Manager
- Quality Manager
- Sales Manager
- Logistics Manager
- EDI Contact
- Engineering Manager
- Customer Service
- After Hours Contact

Suppliers shall maintain the information on the designated Techniplas Supplier Portal located at <https://www.pool4tool.com/portal/wdp>, in order to be considered for potential new business.

4.3 Approval to add a new Supplier to Techniplas Supply Base

Suppliers of production materials/parts and designated services shall require the approval of both the Techniplas Procurement and Quality Department. Engineering, Manufacturing and other departments also may be included in the approval process.

4.4 Minimum Requirements

Listed below are the minimum requirements to become a supplier to Techniplas:

- 1) Non-Disclosure Agreement
- 2) Acceptance to Techniplas Supplier Terms and Conditions
(Tools & Equipment Terms and Conditions may be required as appropriate)
- 3) Acceptance to this Supplier Manual
- 4) Valid Quality Management System certification
- 5) Approved Supplier Assessment
- 6) When requested, Company financial data
- 7) Certificate of Liability Insurance, and agreed amount of coverage by Techniplas
- 8) If requested, minority or women owned certification

Note: Any exceptions or exemptions must be approved by both Techniplas Procurement and Quality Leadership.

During the RFQ process suppliers are required to submit the following documents:

- 1) Supplier Team Feasibility Commitment (unless waived)
- 2) Cost Breakdown Summary (CBD) (unless waived)

4.4.1 Minimum Requirements During RFQ Explained

Supplier Team Feasibility Commitment (STFC)

The STFC is a commitment by the Supplier's product quality planning team that the design can be manufactured, assembled, tested, packaged, and shipped in sufficient quantity at an acceptable cost, and on schedule. The STFC should be completed by the supplier's Engineering, Manufacturing, and Quality teams. Additionally, the STFC review and discussion are designed to allow the supplier to provide early feedback to Techniplas on manufacturing or supply feasibility issues associated with the part.

4.5 Quality Management System

The supplier shall be responsible for establishing and maintaining a quality management system. We require that our suppliers who provide products that will be used in an automotive application, are registered to, or compliant with the current revision of either IATF 16949 or ISO 9001. The system shall be adequately documented to ensure control and quality throughout all phases of contract performance and shall provide for the prevention of nonconforming parts and/or materials being supplied to Techniplas. Suppliers are required to immediately notify all Techniplas receiving sites and Techniplas Procurement, of any change to the supplier's Quality certificate status. Upon request, Techniplas shall have the right to perform supplier QMS audit, or evaluate 2nd party audit results (Such as, VDA 6.3, BIQS, Q1 etc.)

The supplier shall:

- Determine all applicable statutory and regulatory requirements for their material/products/services
- Include controls for internally and externally designated special product and process characteristics
- Cascade all applicable requirements down the supply chain to the point of manufacture

4.5.1 Potential New Suppliers to Techniplas

Approval of new suppliers may be acceptable by providing documentation of the following:

- Certification to the current revision of ISO 9001 or
- A program to become certified to ISO 9001 and IATF 16949 or Certification to ISO 9001 with compliance to AIAG CQI-19 or IATF MAQMSR (Minimum Automotive Quality Management System Requirements for Sub-Tier Suppliers) with a program to become certified to ISO 9001 and IATF 16949.
- A description of the program or implementation plan with target dates should be submitted to Techniplas Procurement. It will be the responsibility of the supplier to ensure Techniplas Procurement is aware of any deviation to the submitted implementation plan.
- Suppliers not IATF or ISO registered are subject to additional audit requirements until certified.
- Current and potential non-manufacturing suppliers such as calibration, sorting/rework, sequencing and warehousing service providers may be required to become ISO 9001 certified. Laboratory suppliers that perform inspection, test, or calibration services must be ISO/IEC 17025 certified and include the mark of a national accreditation body.

- Suppliers of automotive embedded software shall maintain a process for software quality assurance. A software development self-assessment shall be submitted to Techniplas Procurement.

4.6 EDI (Electronic Data Interchange)

Techniplas requests its suppliers to be EDIFACT (Electronic Data Interchange For Administration, Commerce and Transport) compliant.

4.7 Production Scheduling and Logistics

Techniplas will establish the shipping frequency for all production parts and material. Suppliers shall ship to the exact quantities, dates, and times specified on the release. Shipments that are over, under, early or late and freedom of the week delivery will not be accepted. The supplier shall generate advanced forwarder information, as requested, and customs documentation per regulations.

All shipments shall be made according to the Techniplas Supplier Shipping Instructions at the prescribed ship window time with the Techniplas authorized carrier, unless otherwise specified by Techniplas. Excess transportation costs incurred as a result of using incorrect carriers will be debited from the supplier's account.

Suppliers will use authorized carriers for all modes of transportation, including premium transportation, where the supplier is at fault. The supplier will pay for supplier caused premium transportation.

If, for any reason, the supplier is unable to meet the schedules communicated, it is the responsibility of the supplier to notify Techniplas Plant Logistics personnel immediately and receive authorization for the under shipment. Suppliers will make up all under shipments via supplier paid premium transportation that is scheduled by the supplier to meet the originally scheduled destination window.

If Techniplas and/or its customer's production is interrupted by the failure of the supplier to deliver contracted goods within the terms of the contract, all costs that are incurred by Techniplas and/or its customers will be the sole responsibility of the supplier.

Fabrication authorization terms will be four weeks and material authorization will be an additional eight weeks for a total of 12 weeks. All information beyond 12 weeks is for planning purposes only. Exceptions to these terms shall be agreed upon during the quoting process and documented in the Purchase Order.

4.8 Labeling

Techniplas's suggested labeling can be found at <https://www.techniplas.com/core/resources/suppliers/>.

Most Techniplas facilities will require the AIAG Identification/labels which permit traceability back to the specific supplier raw material lot numbers, as well as the manufacturing, inspection and test records. The supplier shall also be able to trace where products were made under similar conditions (same raw material lot, same manufacturing line/batch, etc.). Sequence of batches must be identified on the packaging label by either a date code or batch/lot number. Safety related identification criteria shall conform to all government regulatory and Techniplas requirements including identification on the packaging label. No exceptions to these requirements shall be permitted unless acknowledged in writing by an authorized Techniplas representative for the Techniplas facility involved. Techniplas suppliers that ship to multiple Techniplas locations will need to obtain the label approval from each facility, as they may be on different ERP systems.

4.9 Packaging

Techniplas Packaging requirements are managed in the same fashion as our labeling requirements – it will be dictated and approved by the Shipping/Receiving Manager at each Techniplas manufacturing facility. It is the supplier’s responsibility to ensure that the packaging is suitably designed to withstand the supply chain transportation route from the supplier to Techniplas, even if Techniplas is responsible for picking up the goods. Failure of packaging through normal means of transportation will be the suppliers responsibility to reconcile. Resolution of this potential situation will refer to Section 7 of Techniplas North America’s Supplier Terms and Conditions.

4.10 Customs Documentation

Suppliers need to provide all information necessary for Techniplas to comply with all applicable laws, regulations and related legal reporting obligations. Suppliers need to provide all documentation to allow Techniplas to meet customs- related obligations. The three required documents for customs clearance are:

1) Commercial Invoice - a record or evidence of the transaction between the exporter and the importer. The minimum data generally included are the following:

- Name and address of the shipper and consignee
- Date of issue
- Invoice number
- Description of the goods (name, quality, etc.) including Harmonized System (HS) code
- Unit of measure
- Quantity of goods
- Unit value
- Total item value
- Total invoice value and currency of payment
- The terms of payment (method and date of payment, discounts, etc.)
- The terms of delivery according to the appropriate Incoterm
- Country of Origin

2) Freight documents:

- Bill of Lading (B/L)
- Air Waybill (AWB)

3) Packing list - an inventory of the incoming cargo required for customs clearance. This list shall include the following:

- Name and address of the shipper and consignee
- Date of issue
- Handling Unit (HU) Type (pallet, drum, crate, carton, box, barrel, bag, etc.)
- Number of Handling Units
- Number of packages per Handling Unit
- Number of parts per package
- Part Number, Part Description, Net weight, gross weight

The supplier is required to obtain all tariff and trade program duty avoidance(s) and/or refund benefits, where applicable. Supplier further agrees to indemnify Techniplas against any and all financial responsibility arising from supplier’s failure to comply with these requirements. The supplier shall agree

to supply Techniplas with the information required to meet legal reporting or obtain any duty drawback rights that might be accrued. The request for information may be initiated directly from Techniplas or a third party service provider on behalf of Techniplas.

4.11 Arrival Notice (Shipments to Mexico)

Every Supplier shipping to Mexico Location, should provide ASN for every shipment (EDI when applicable). Customs clearance documentation should be sent in advance electronically to the buyer along with a hard copy with the carrier. Documentation should include :

- **Invoice : Invoice should include:**
 - Techniplas part number
 - Description
 - Supplier Part number & Description
 - PO Number
 - Quantity shipped
 - Price
- **Packing Slip : PS should include:**
 - Techniplas Part number
 - Description
 - Supplier Part number & Description
 - PO Number
 - Incoterm
 - Lot number
 - Qty of pallets/bundles included on the shipment
 - Carrier and Tracking information
- **Certificate of Conformance (all resins should include CoC)**
- **Certificate of Origin including HTS number**

In case of MRO material/equipment, along with above documentation, it is required to include a detailed description of the material/equipment to allow customs agent to validate HTS classification before import.

5.0 Product Launch Requirements

5.1 APQP Program Development Process

The Techniplas Advanced Product Quality Planning (APQP) Program Development Process is used to evaluate the supplier readiness at defined stages. These phases are aligned with program, customer milestones or build events. Techniplas follows the AIAG FMEA Manual recommendations and Techniplas' customer(s) specific requirements.

Risk Assessment:

Techniplas may perform a risk assessment on the part and potential supplier during the sourcing process. The intent of this risk assessment is to determine the degree to which Techniplas will be involved with the supplier during the APQP process.

5.2 Capacity Management

Suppliers to Techniplas are responsible for managing their own supply chain (including sub-suppliers of components and raw materials) and shall identify, communicate and resolve any constraints that prevent an uninterrupted flow of product to Techniplas's manufacturing locations. Supplier capacity planning includes allocating required equipment, tooling and resources and accounting for their utilization in current Techniplas business and shared capacity with other customers.

Capacity verification may include Techniplas's review of supplier and sub-supplier production capacity to peak demand requirements. An action plan with specific milestones is required from a supplier if Techniplas observes any insufficient Supplier (or sub-supplier) capacity so as to endanger on-time deliveries of products to Techniplas. A capacity analysis and Run@Rate will be utilized to capture the capacity planning and Run@Rate details during the APQP process and for serial production.

Suppliers should provide quotes to Techniplas based upon Techniplas's annual volume projections and should capacitize to these annual volume projections plus 20% volume, taking into account the fluctuations in weekly production that may result from Techniplas's customer's demands. Annual volume is based on weekly production (five production days) unless otherwise stated. In addition to the above, the following requirements apply:

- Average production weekly demand requirements are to be met by operating the tooling, equipment and facilities based on a five (5) day work week including time used for preventive maintenance and tool changes.
- Suppliers are responsible for supporting peak weekly demand requirements by operating the tooling equipment and facilities based on a six (6) day work week.
- Supplier's planned weekly production should take into consideration the appropriate number of working weeks (in a calendar year) at Techniplas's manufacturing location(s). If the supplier is unsure of the appropriate number of working weeks, the supplier should contact the applicable Techniplas Buyer for clarification.
- Techniplas's annual and weekly volume projections constitute projections only and do not require Techniplas to make purchases of the products in such amounts.
- Suppliers may be required to review and submit capacity studies as a part of annual PPAP requalification. Techniplas may also conduct capacity audits to accommodate Techniplas's or its customer's requirements. Techniplas requires that these capacity studies/audits be completed and returned to Techniplas within 10 business days.

5.3 Special Characteristics

A Special Characteristic is a product characteristic that requires more care in the manufacturing process to achieve customer satisfaction. When required by the customer their terminology and/or symbols shall be used.

Key Product Characteristic (KPC)

- Safety or compliance with government regulations (S/C)
- Fit, function, performance, appearance or reliability (F/F)

Suppliers are required to meet the following process capabilities for Special Characteristics:

Special Characteristics shall be specifically addressed in the supplier's PFMEA, Control Plans, Process Flows, Work Instructions and all other associated documents. Suppliers will be required to provide capability results as defined by AIAG Customer Specific Requirement or by Techniplas.

Suppliers shall implement process controls with "SPC" for Special Characteristics and to identify "internal" Special Characteristics.

NOTE: "Internal" Special Characteristics are Special Characteristics the supplier has identified because they are important to predict process stability. Suppliers are responsible for ensuring that relevant Special Characteristics are explained, understood and controlled by their sub-supplier.

In addition to these capability requirements, the processes must be in statistical control and the quality characteristic must be normally distributed.

In cases where the supplier does not meet these process capability requirements, the supplier shall implement corrective actions and containment to ensure that defective material does not escape the supplier's process.

Containment must continue until capability is achieved. Exceptions to these process capability requirements will be communicated to the supplier. If these exceptions come from Techniplas's OEM customers, they will supersede Techniplas's requirements.

Any exceptions to Techniplas's process capability requirements will be handled on a case by case basis and must be approved in writing from an authorized representative from Techniplas.

5.4 Prototype Program

Prototype requirements will be provided by Techniplas Engineering or Techniplas Procurement. The supplier shall be responsible for the quality of the materials and services it produces, including any sub-contracted services, and for sub-suppliers directed by Techniplas. Suppliers are required to provide a Prototype Process Flow Diagram and a Prototype Control Plan based on the current PFMEA upon request. Delivery date(s) for prototype components shall be established by Techniplas and noted on the Purchase Order. The delivery date(s) reflect the date(s) parts are to be received at Techniplas's docks. All prototype components and shipments shall be identified and include inspection and test reports per the Techniplas receiving location requirements.

5.5 Tooling and Gauges

Techniplas and customer owned tooling/gauging shall be permanently marked with an asset tag that includes a unique Tool ID number (TID) and company name so the ownership of each item can be easily identified. The supplier may not move Techniplas's tooling without Techniplas's prior written consent.

As a part of the initial PPAP submission, the supplier may be requested to provide photographic evidence of the asset tag permanently affixed to the tool(s) and gauge(s). Additional photographic evidence shall be provided that shows the entire tool(s) and gauge(s). The supplier shall provide 2D and 3D tool data. Techniplas reserves the right to hold final payment for tooling, until all photographic evidence is provided.

Techniplas may require suppliers to establish and report periodic preventive/predictive maintenance plan and tool life monitoring on all tooling. Techniplas may request supporting documentation for review on maintenance and tool life on an annual basis.

Any requests for refurbishment/repair of Techniplas or Techniplas customer owned tooling shall be notified to Techniplas Buyer in advance for review and approval.

5.6 Pre-Production / Pilot Requirements

Per the Techniplas receiving plant requirements, suppliers are expected to clearly identify Pre-Production or Pilot parts to ensure that the Techniplas receiving site does not mix such material with regular production material. The Supplier Identification, Part Number, Engineering Level, and Quantity must be clearly displayed on the part-packaging label to ensure easy, visible segregation of containers/parts. In addition, a brightly (neon) colored sheet of paper must be attached to all sides of the container or material, stating “Pre-Production / Pilot Parts”. The brightly colored (neon) sheet of paper shall be approved by the receiving plant(s) quality representative.

5.7 Production Part Approval Process (PPAP)

Techniplas utilizes the AIAG PPAP guidelines for all suppliers unless otherwise required by Techniplas’s customer. Techniplas may require a PPAP Checklist to communicate the PPAP requirements. All PPAPs shall be submitted to Level 3 unless otherwise determined by the Supplier APQP team or Techniplas Plant Quality.

Techniplas requires suppliers to follow the applicable industry revision of the AIAG- PPAP manual for American OEMs/Tiers and “Production Process and Product Approval PPA”, VDA volume 2, ISIR for German OEMs/Tiers, and any other customer specific requirements.

Full or interim PPAP approval is required prior to shipping material to Techniplas for production. Any production level parts shipped to Techniplas prior to obtaining this approval will be rejected. In the event a product is shipped to multiple Techniplas locations, PPAP approval may be required from each Techniplas receiving location.

Compliance with all drawing requirements (including dimensional tolerances) is required for full PPAP approval. In the event of any non-conformance a deviation must be requested and approved by an authorized Techniplas Quality representative. Deviations must be documented and approved by Techniplas.

Suppliers to Techniplas shall ensure they audit and manage critical processes including sub-suppliers per AIAG Special Process Assessments:

- CQI-9 Heat Treat System Assessment
- CQI-11 Plating System Assessment
- CQI-12 Coating System Assessment
- CQI-15 Welding System Assessment
- CQI-17 Soldering System Assessment
- CQI-19 Sub-Tier Supplier Management Process Guidelines
- CQI-23 Molding System Assessment
- CQI-27 Casting System Assessment

Evidence of compliance is required for PPAP approval if any of the above processes are used.

5.8 Sub-Supplier PPAP

Techniplas requires suppliers to provide evidence of PPAP approval for each sub-supplier component. At a minimum this shall include the PSW and may also include Material Certifications, PFMEA, Control Plans, Capability Studies and Safe Launch or Early Production Containment Plans. For additional sub-supplier requirements see also section 6.6.

5.9 Annual Requalification (PPAP)

Suppliers shall submit a level 3 requalification package annually for any production components, unless otherwise approved in writing by Techniplas Quality. This requirement shall be noted in the Production Control Plan, and must be included in the production price of the product. Techniplas will not pay for annual requalification as a standalone cost. If a non-conformance is found during the material or conformance testing, the supplier must notify the Techniplas receiving site Quality department immediately so that appropriate action can be determined and implemented.

5.10 Reporting Expectations

Suppliers need to provide samples, testing, environmental MSDS/SDS (Material Safety Data Sheet) and IMDS information in the time frame requested or at least 60 calendar days prior to the PPAP submission. Note: Ford sub-tier suppliers are required to submit IMDS 6 months prior to PPAP. MSDS/SDS are required for bulk or raw materials, rust preventative, grease, lubricating oil, or other chemicals that are on a part or assembly provided to Techniplas. Reporting must be completed for each Techniplas part number. This requirement applies to off-the-shelf parts where the supplier is design responsible. This requirement also applies to directed buy parts where Techniplas’s customer holds design responsibility.

To report directly into IMDS, use the IMDS website located at (www.mdssystem.com). The IMDS recipient screen must include Techniplas’s part number, part description, revision level and revision date as well as the supplier’s manufacturing site DUNs number. The supplier shall release all completed IMDS data sheets to Techniplas using the IMDS parent codes listed in the table below.

FIGURE 1 – PARENT CODE IN IMDS

Parent Codes Used for IMDS Submission to Techniplas	
Nyloncraft	1437
Dickten Masch Plastics	48097
Weidplas	1768

5.11 Reporting Expectations of Restricted Materials

All suppliers to Techniplas shall be compliant with the following regulatory standards, as applicable but not limited to:

- Directive 2000/53/EC of the European Parliament and of the Council on End-of-Life Vehicles (ELV). Last version of Annex II of the EU ELV Directive 2000/53/EC
- Global Automotive Declarable Substance List (GADSL)
- IMDS must meet OEM requirements
- ISO 3613 Chromate conversion coatings on zinc, cadmium, aluminum-zinc alloys and zinc aluminum alloys
- Registration, Evaluation, and Authorization of Chemicals - REACH Regulation EC No. 1907/2006
- Suppliers are required to provide requested information regarding Conflict Minerals reporting.
- Supplier must declare Conflict Minerals status using the common Conflict Minerals Reporting Template (CMRT). The latest version of the CMRT available at:

www.conflictreesourcing.org/conflict-minerals-reporting-template/

Only the current version of the CMRT will be accepted and must be completed in its entirety, listing all smelters within the supply chain.

5.12 Product Safety Regulations

Suppliers must comply with the TREAD Act (Transportation Recall Enhancement Accountability and Documentation), EU Directives on Product Safety and any other country product regulation or Techniplas customer requirements. In the event a supplier determines or suspects a product safety non-conformance, they are to call their Techniplas Buyer and request contact information for the appropriate personnel. For certain Techniplas customers, a product safety representative shall be identified and be required to complete customer specific training.

5.13 Software and software applications

Embedded software must meet IATF 16949:2016 requirements for embedded software control and protection. Software assessment methodology shall be used for all process involving embedded software and results supplied to Techniplas.

All suppliers to Techniplas must have at minimum an electronic data backup process and system in place for data protection as well as virus protection for all relevant Techniplas data (including CAD models and email, etc). Any questions can refer to ISO/IEC 15504 for best practices.

5.14 Safe Launch Plan (SLP)

Techniplas requires its suppliers to develop and implement a Safe Launch Plan during the APQP process. The purpose of the SLP is to contain defects within the supplier's facilities, guide the supplier to

implement appropriate corrective actions and to prevent defects from reaching Techniplas or Techniplas's customers. The SLP shall be utilized for all pre-production builds, new serial production builds, Engineering Changes (ECO) and will also be used for the agreed upon milestones for the supplier to exit the SLP status. This form will be signed off by Techniplas receiving Plant Quality personnel and the supplier. All products produced during the SLP time frame shall be subjected to the SLP plan.

A Pre-Launch Control Plan (PLCP), shall be developed during the APQP process and in accordance with the latest edition of the Advanced Product Quality Planning and Control Plan (APQP) reference manual. Copies of the PLCP shall be provided to Techniplas upon request. The PLCP is not a substitute for the Production Control Plan (PCP), but rather a significant enhancement to the PCP and used to validate the PCP. The PLCP shall include the following:

- Special characteristics verified 100%
- Increased frequency/sample size of receiving, process and/or shipping inspections, including labeling accuracy
- Increased audits, verifying error proofing devices and key manufacturing quality fundamentals such as standard work, material handling and adherence to established quality practices
- Addition of inspection/control items and functional testing
- Statistical evaluations
- Attaching a green circular sticker (or equivalent) to each container label that is signed and dated by the designated staff person. The green dot should have a diameter of 1.25 to 2 inches (3 to 5 centimeters) or as defined by receiving site instructions. Note: If any containers reach Techniplas that do not meet these criteria, the container(s) in question are subject to rejection and sorting by the Techniplas plant.
- Mandated sub-supplier containment and/or sub-supplier audits.
- A designated staff person who is responsible for ensuring the effectiveness of the suppliers' SLP process.
- SLP stations must be off line, separate and independent from the normal manufacturing/assembly process flow.
- Personnel trained to the standardized work performed at each SLP station.
- A corrective action plan using appropriate problem solving methods created for every individual failure mode, and available upon request by Techniplas. 100% containment is required until the corrective action is validated.

Once the SLP criteria documented has been met, suppliers may request exit from SLP. When all requirements of the established exit criteria have been met, Techniplas will sign off in writing. If the exit criteria have not been met, SLP must remain in effect for a minimum of 30 days after implementation of corrective actions. If at that point, no further issues are identified, the exit review will be repeated.

The SLP shall also be utilized for situations that represent significant risk to Techniplas, or Techniplas's customer facilities, as determined by the supplier or required by Techniplas (such as: production start-

up after an extended shutdown, significant tool or equipment repair, out of control or incapable processes, etc.).

6.0 Serial Production Process

6.1 Change Control

Suppliers, and sub-suppliers to Techniplas, shall not implement a change to a product and/or process that has been previously PPAP approved without first receiving written authorization from Techniplas (written authorization may be in the form of an email, but needs to be from authorized Techniplas Quality Manager). Examples of such changes include, but are not limited to, tool moves, changes to manufacturing/shipping location, material changes, etc.

Before implementing any product and/or process change, the supplier is required to submit a Supplier Change Request (SCR) / Deviation to Techniplas Quality personnel (request for formal SCR form may be required). No changes shall be made until approval is received from Techniplas per above.

Any supplier who does not adhere to this requirement will be held responsible for all damages, losses and liabilities attributable to any unapproved change made by supplier or its sub-suppliers, as documented in the Techniplas North America Supplier Terms and Conditions (i.e. customer rejections, customer line stoppage penalty fees, field failures costs, warranty expense). Suppliers who implement unauthorized product and/or process changes will be placed immediately on Controlled Shipping Level 2 (CS2) and may be placed on New Business Hold.

Initial shipments of new or revised material will be labeled per Techniplas Plant Quality/Logistics for a duration determined by the receiving Plant. Suppliers are responsible to ensure all superseded materials have been cleared from the supply chain. (Reference Section 5.6 for labelling requirements.)

6.2 Contingency Plans

The supplier shall prepare contingency plans to satisfy Techniplas requirements in the event of an emergency such as utility interruptions, labor shortages, natural disasters and key tooling/equipment failure. When the supplier knows in advance of an impending production interruption, the supplier shall notify all Techniplas receiving sites and the Techniplas Buyer immediately before the interruption. The nature of the problem shall be communicated with the immediate actions taken to assure supply of product. Production interruptions may include, but are not limited to, plant fires, severe storms, political unrest, war, labor strikes or other events that prevent the supplier from meeting the specified capacity volumes. The supplier is required to advise Techniplas of the plan for recovery and work toward minimizing its effect on the Techniplas plant. Upon request, the supplier shall provide their contingency plans to Techniplas. Techniplas reserves the right to have a presence at the supplier at any time Techniplas' supply chain could be compromised.

Techniplas also requires that our suppliers assess building contingency into their supply chains by having multiple approved vendors in their supply base, to mitigate risk of supply interruption. Having multiple approved vendors for the same materials/goods/products protects our suppliers, and therefore Techniplas and our customers.

6.3 Facility Access

With 24-hour advanced notice, suppliers shall allow Techniplas, Techniplas' customers or third-party auditor's access to both their facilities and sub-suppliers for the purpose of evaluating parts, processes, and documents.

6.4 Ongoing Manufacturing Process Audits

Suppliers to Techniplas shall have a documented process for auditing their Quality Management System (QMS) and Manufacturing Processes. Suppliers should utilize a layered audit approach following AIAG CQI-8 Layered Process Audit, conducted by all layers of management for products and processes. The audit report shall document the supplier's findings and actions taken to correct any issues.

Since Techniplas is an IATF 16949 certified company, we are mandated to audit our supply chain based on risk analysis, product safety requirements, compliance requirements, supplier performance or supplier certification level. As such, the supplier shall allow Techniplas, an approved third party or our customer into their facility to audit the QMS and the manufacturing processes if required.

6.5 Measurement System Analysis (MSA)

Suppliers to Techniplas are required to confirm the Reliability and Reproducibility of the measurement systems. A Gauge R & R study is required for each measurement and test system or device identified in the control plan. The following guidelines are to be followed;

- AIAG or VDA 5 format of MSA will be requested by Techniplas depending upon our customer specific requirements. The Techniplas Quality Team will identify the requirement at APQP kick off meeting.
- Gauge R&R acceptance requirement of less than 20% overall variation.
- Number of distinct categories must be greater than 5
- Gauge R&R's must be performed by trained production operators
- Parts selected for the study must dimensionally span the measurement range of the gauge. It is acceptable to "create" the parts out of tolerance.
- The Gauge R & R must be less than 1 year old.

If the results of the study do not meet the above requirements:

- An action plan to correct the non-conformance must be created and submitted to Techniplas Quality for approval.
- Containment, such as 100% inspection, or an alternative means of measurement

Other types of Measurement Systems analysis may be utilized when approved in advance by the Techniplas Quality Manager/site receiving the product.

6.6 Sub-Supplier Management

Techniplas suppliers are responsible for the control and continuous improvement efforts of its suppliers. Techniplas reserves the right to visit sub-suppliers to assure that the materials and services conform to specified requirements. These visits may involve customers or an approved third-party representative of Techniplas. Techniplas has the right to request a copy of their sub supplier PPAP as deemed necessary. (See Section 5.7.1)

Techniplas suppliers shall require their suppliers of production goods and services to conform to the requirements specified herein, as well as applicable customer requirements, and must implement and document appropriate controls. Suppliers will be responsible to maintain and improve the quality of sub supplier parts even though it is Techniplas directed or customer directed source. Suppliers to Techniplas must select their suppliers based on Techniplas' expectation of zero defects and on their capability to continually maintain robust processes throughout the life of the product.

6.7 Record Retention

The table below illustrates states the mandatory record retention related to products supplied to Techniplas. Regulatory or customer requirements supersede these standards.

FIGURE 2 – RECORD RETENTION

Record Retention Standards	
Document	Retention Period
Production Part Approval Process Packages (PPAP)	Length of time that the part is active for production and service requirements plus 15 years or, if there are no such production or service requirements, a minimum of 10 years unless otherwise specified by Techniplas
Tooling Records	
Traceability Records	
Engineering Records	
Purchase Orders	
Corrective Action Records	5 Years
Years Quality Performance Records such as control charts	10 Years
Internal Quality Records	3 Years
Management Reviews	3 Years

7.0 Supplier Performance

7.1 Non-Conformance Communication – Corrective Action Request (CAR)

When a problem occurs, suppliers are expected to immediately put their operations in containment to protect Techniplas, or Techniplas' customers, from receiving non-conforming material. When Techniplas verifies a performance issue as supplier's responsibility, a CAR shall be issued. A CAR can fall in to but not limited to any of the following categories:

- Part Quality including Warranty
- Delivery
- Documentation
- Packaging / Dunnage
- Customer Satisfaction
- PPAP
- Responsiveness
- Procedural (not adhering to this manual or contractual Terms and Conditions)

Problem resolution must be conducted using the 8-Discipline (8D) methodology. Techniplas may require customer specific methods, forms or supporting information. Suppliers should have personnel formally trained in problem solving (such as the AIAG 8D training course) who have the ability to quickly and permanently resolve product and process issues using data driven problem resolution tools and techniques.

Within 24 hours, the supplier must submit their Initial 8D Response by completing sections D1 through D3. Containment and quarantine of all product(s) must include all locations and in transit. Techniplas' suppliers are responsible for costs and immediate support when containment at Techniplas' customer location(s) are required. Within 10 calendar days, the supplier must submit D4, Root Cause Analysis, to Techniplas. Within 30 calendar days, the supplier must submit their completed Final 8D Response with evidence.

7.2 Controlled Shipping

In the event that the non-conformance has a severe impact and/or is a repeat problem, Techniplas may require Controlled Shipping. Controlled Shipping is a formal demand by Techniplas for a supplier to put in place an additional offline inspection process to sort for nonconforming material, while implementing root-cause analysis and corrective actions. The intent of Controlled Shipping is to implement a rigorous process that protects Techniplas from the receipt of additional nonconforming material. Techniplas decides whether Containment Level 1 or Containment Level 2 would be appropriate.

Containment Level 1 is defined as containment activity that is performed by the supplier's personnel, in an area off-line from the manufacturing cell. Containment Level 2 is defined as containment activity that is performed by an ISO 9001 or IATF 16949:2016 certified outside sorting company or third party (at the supplier's expense), offline from the manufacturing cell. The Controlled Shipping process is in addition to normal controls. The data obtained from the Controlled Shipping inspection process is critical as both a measure of the effectiveness of the containment process and the corrective actions taken to eliminate the initial nonconformance. This data shall be reported per the Techniplas receiving site.

The Controlled Shipping containment process includes the following:

- A highly visible and properly lighted and equipped containment area, offline from the supplier's normal production process
- A well-defined efficient material flow including clearly identified areas for incoming and outgoing material.

- Provisions for repairs/rework separate from the containment area.
- Information boards prominently displaying non-conformances, metrics, inspection results (e.g. SPC charts, trend charts, etc.), action plans and status and other results from the containment activity.
- Daily review of updated charts by top supplier management with feedback to responsible personnel.
- A documented and data driven team problem solving activity.
- Proper job instructions, quality standards, boundary samples, tools, equipment, and qualified measurement devices to facilitate the containment operations.
- Proper operator training with adequate details of the process.
- An area/storage container marked in a way that quickly and clearly identifies any contents as SUSPECT or NON-CONFORMING (Work Place Organization and Visual Controls).
- Proper preventative maintenance as required.
- CS certification label as agreed with Techniplas receiving location.

The Containment Level 1 process starts with notification by the Supplier Quality contact or receiving plant representative to an appropriate staff level member of the supplying location through issuance of Level 1 Controlled Shipping Corrective Action Request. The Containment Level 2 process starts with notification by the Supplier Quality contact or the receiving plant to an appropriate staff level member of the supplying location through issuance of Level 2 Controlled Shipping Letter. The non-conformance communication includes the reason for Containment Level 2, inspection checks required, and exit criteria required to be achieved. The supplier shall notify their ISO 9001 or IATF 16949 Registrar when they are placed in Containment Level 2.

The supplier shall remain in Controlled Shipping until permanent corrective action has been implemented and its effectiveness validated. Suppliers may exit from Containment Level 1, or request exit from Containment Level 2, when the following criteria have been met:

- a) Thirty consecutive days of production have shown zero defects at the point of containment, unless otherwise specified by Techniplas.
- b) A problem solving analysis, with supporting evidence, for the concern that caused the containment to be initiated has been submitted to the Techniplas receiving site and closure has been agreed.
- c) For issues where an Techniplas supplier non-conformance reached Techniplas's Customer, Techniplas has received approval to exit Controlled Shipping from our Customer.

7.3 Supplier Monitoring

Direct material suppliers may receive communication from the Techniplas facility, regarding their ability to meet the required performance levels. If a supplier is not meeting a performance criteria, the Techniplas facility may require corrective actions, up to and including third party involvement for resolution.

7.4 Cost Recovery (CR)

Failure to comply with Techniplas requirements may result in Cost Recovery (CR) to the supplier. Suppliers have five (5) calendar days to respond to a cost recovery to avoid a debit. Cost Recovery types include, but are not limited to the following:

- Warranty charges to Techniplas involving a supplier's product
- Rework and/or scrap of damaged or defective parts.
- Rework of damaged or inappropriate packaging
- Offline rebuilds or offline repairs
- Internal sorts using Techniplas resources
- Late shipping of orders
- Expedited freight costs associated with late shipping
- Failure to send ASN or discrepancies in ASN submission (where applicable)
- Incorrect labeling, including non-scannable label at Techniplas Plant
- Incorrect packaging
- Acquiring 3rd party source to assist with extra activities to normalize our process.
- Floor space due to Sort activities
- Administrative charges for Techniplas resources to support supplier related issues.

8.0 Revision History

Revision History			
Revision	Date	Description of Change	Author
1	March 2019	Final Draft, released for use, posted on Techniplas.com	J. Reder