

Subject: Supplier Requirements Manual for Tenneco Enterprise

Procedure Number: E-SC-GL000

Business Unit: All

Effective Date: July 26, 2022

Function: All

Owner: Vice President, Purchasing (R. Pack)

Territory: Global

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1. Purpose

1.1 Preface

Tenneco places the highest emphasis on the performance, quality, reliability and integrity of its products. To achieve this goal, we count on the efforts and contributions of all our stakeholders, including our suppliers, who play a pivotal role. We expect that our suppliers meet Tenneco's level of commitment to achieve the performance and quality levels our customers expect and demand. Tenneco seeks suppliers that share our core values of 'Integrity Always', 'Will to Win', 'One Team' and 'Make Tomorrow Better', that are committed to conducting business in an ethical and honest manner, and in a way that promotes corporate social and environmental responsibility. Only together will we be successful in the marketplace.

1.2 Vision

Driving Advancements in Global Mobility – Solutions for cleaner, more efficient, comfortable, and reliable performance.

1.3 Acceptance of binding obligation

Except as otherwise noted, the contents of this Supplier Requirements Manual are binding on the supplier. The objective of this manual is to provide you with clear requirements in a concise and succinct manner. While we attempt to make these requirements transparent and easily understood, it is recognized that due to the nature of your products, some exceptions may be required. In the latter cases, please document your concerns and recommendations, providing a sound rationale for your position and direct them to our purchasing group.

Please note, however, that raising concerns or proposing recommendations shall not relieve your responsibility to comply with all the provisions and obligations in this manual. Please be further advised that no exceptions or changes to this manual will be deemed to exist unless a Tenneco management team member executes a formal contract accepting such exceptions or changes. In the absence of a written agreement, signed by a Tenneco management team member, all additional or conflicting terms proposed by you are hereby rejected.

This manual uses the following verbal forms – “**shall**” indicates a requirement, “**should**” is a recommendation, “**may**” indicates permission, “**can**” indicates a possibility or capability, “**could**” indicates ‘might’, or ‘may well’, “**Note**” is for guidance or clarification purposes, “**Tenneco Buyer**” refers to Tenneco Purchasing or an individual Tenneco site, and “**Seller**” refers to the supplier of the goods or services.

2. Scope

2.1 Scope Statement

This document is provided to define both our customary and general guidelines of how Tenneco conducts business. These binding global purchased material or service requirements outline our expectations to create what Tenneco believes is a strong, competitive, and value-added supply chain.

Tenneco's success is dependent upon our ability to provide the highest value to our customers through quality, service, and cost. A close working relationship with our supply base is critical to achieving this objective. This manual will provide you with the necessary information that will be valuable to our mutual efforts of conducting business in a professional, ethical, efficient, and profitable manner. This updated manual supersedes all other supplier manuals previously published by Tenneco.

3. Tenneco's Quality Statement and Product Compliance and Quality Policy

3.1 Quality Statement

We are committed to delivering Customer Satisfaction by fostering a zero-defect mindset with a commitment to meet requirements using continuous improvement with teamwork, engagement, and ownership to GET IT RIGHT THE FIRST TIME, EVERY TIME.

3.2 Product Compliance and Quality Policy

Each business unit must establish governance, roles, and responsibilities to achieve the following for products sold by the Company:

- *Foster a quality mindset with the objective of providing products and services with zero defects by applying continuous improvement strategies to deliver competitive advantage.*

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- *Comply with relevant laws, regulations, and applicable requirements, including regulation of product materials and proper labeling.*
- *Continuously improve the quality management system to ensure product safety, prevent quality incidents and eliminate defects through the review of quality objectives and results.*
- *Ensure accurate reporting of data.*
- *Encourage teamwork, engagement, and ownership of quality responsibilities among all employees through standards, education, training, and effective communication; and*
- *Facilitate continuous feedback from our customers regarding the performance of our products and utilize their input to improve product and service quality.*

Tenneco expects full support from our suppliers in reaching the objectives laid out in the above Quality Statement and Policy.

3.3 Risk Management

Suppliers shall implement and maintain a formal system for the identification and mitigation of risks that exist across all departments, or functions of their organization, and in particular any risks that can cause negative impact to Tenneco. Risk identification and evaluation tools may include, but not be limited to, FMEA, Risk Register, Contingency Plans (*which shall meet the requirements of clause 6.1.2.3 of the IATF16949 standard and [section 4.8](#) of this manual*), Bow Tie Analysis, etc. Identified risks shall be scored, and higher risks prioritized for mitigating action to drive continual improvement through the supplier's organization.

3.4 Product Safety

When applicable to the product(s) being supplied, suppliers shall comply with clause 4.4.1.2 of the IATF16949 Standard and all applicable legal requirements, and supplier shall nominate a qualified 'Product Safety and Conformity Representative' (PSCR) responsible for ensuring product safety throughout the supplier's product realization process. When requested by Tenneco, suppliers shall use Tenneco designated symbols for special characteristics. Tenneco reserves the right to pass on to suppliers, additional requirements related to product safety when defined by Tenneco customers in specific projects.

4. **Purchasing**

4.1 Organizational and Operational Philosophy

To remain a key player in the marketplaces in which we operate, Tenneco is committed to supplying customers with high quality, cost competitive products. To achieve this goal, we must choose long-term business partners who share our values and demonstrate ongoing commitment to supplying defect-free (zero PPM and zero warranty claim) products, on-time every-time and maintaining competitive pricing; cost reduction through elimination of waste and the application of 'Lean' methodology. Our suppliers must be technologically competent and financially capable of supporting current needs and the needs of developing new products into the future.

Sourcing decisions shall be based on competitive pricing and life-cycle costing, quality assured management systems, meeting the performance metrics, and ethical conduct laid out later within this manual.

Tenneco operates in an environment focused on continuous improvement and satisfying the ever-increasing expectations of our customers for quality improvement, economic value added and cost reduction. To achieve this our suppliers must share our commitment and operating philosophies to meeting these expectations and driving sustainable business relationships throughout the supply chain.

4.2 Ethics, Integrity and Confidentiality

Tenneco requires its Suppliers and their subcontractors to comply with all applicable laws, regulations, directives, guidelines, rules, orders, conventions, ordinances and standards of the country(ies) of origin and destination or that relate to the manufacture, labeling, transportation, importation, exportation, licensing, approval or certification of the goods, including, without limitation, those relating to environmental matters, data protection and privacy, wages, hours and conditions of employment, subcontractor selection, discrimination, occupational health/safety and motor vehicle safety.

Without limiting the generality of the foregoing, Supplier and its subcontractors shall comply with all applicable domestic and foreign anti-bribery, anti-trust and anti-corruption laws, and other laws governing improper payments, including but not limited to, the requirements of the U.S. Foreign Corrupt Practices Act, the UK Bribery Act of 2010, and any other applicable anti-bribery and anti-corruption laws and regulations in other jurisdictions (collectively, the "Anti-Bribery Laws"), and Supplier shall not act in a way that

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would cause Tenneco to be in violation of the Anti-Bribery Laws (such as, by way of example only, providing a kickback, bribe, inappropriate gift or entertainment to any employee or agent of Tenneco or government official or political party in order to obtain or retain business or to secure an improper commercial advantage).

Additional ethics and compliance-related details are provided in the following documents: Tenneco's [Supplier Code of Conduct](#), supply contracts / GTCs between Tenneco and supplier, training materials, and other communications that Tenneco provides to its suppliers. Suppliers shall report suspected or actual non-compliance with this Supplier Requirements Manual or local laws. Supplier may use the Tenneco Ethics Hotline at 866-828-8388 or via tennecohline.ethicspoint.com where anonymity is offered, where allowed by law. Tenneco does not tolerate retaliation of any kind taken against individuals who honestly report potential or actual violations. When a potential violation has been reported, Tenneco will investigate it and respond accordingly.

While conducting business with suppliers and service providers, Tenneco may share information considered to be confidential. When this is the case supplier or service provider shall complete and return the Tenneco Non-Disclosure Agreement. In all cases, however, suppliers and service providers will hold in confidence whether written in text, data or electronic form, or verbally exchanged, all technical data and know-how, financial and customer information, reports, drawings, specifications, proposals, computer systems, formulae, processes, software (source or object code), flow charts, exams and exam answers, studies, techniques, compilations, prototypes, methods of doing business, trade secrets and drafts of, notes on, or copies of any of the foregoing which are proprietary to Tenneco. Suppliers and service providers shall also refrain from decompiling, reverse engineering or otherwise reconstructing products, samples or prototypes provided by Tenneco. Also see the Tenneco [Supplier Code of Conduct](#).

4.3 Supplier Criteria

Tenneco aims to achieve "Best in Class" supply chain management and supplier performance status. As we focus on our core manufacturing processes, our suppliers shall also continuously improve and develop their core competencies. To nurture and maintain a long-term relationship with Tenneco, suppliers shall:

- Be globally competitive in Quality, innovation, technology, service, and cost,
- Provide defect-free (zero PPM / zero warranty claim) products for all direct and indirect materials and services,
- Deliver high-quality parts, materials and services on-time, every time,
- Be capable of validating products for Tenneco specific applications,
- Maintain a QMS that meets requirements defined in the below Supplier Types Matrix (section 4.4),
- Provide lowest cost products driving year-on-year reductions through continuous improvement and VA/VE initiatives,
- Be prepared to follow Tenneco into emerging market regions,
- Be proactive and flexible in responding to changing customer needs, and
- Be financially stable (Supplier Financial Risk Assessment).

Supplier on-boarding into the Tenneco supply base begins with suppliers completing an initial registration through the respective supplier portal, or e-mail directly to their Tenneco Buyer. Suppliers shall input pertinent information directly into the portal (excluding Zycus), which is routed to the Tenneco Buyer for preliminary supplier review. If review is favorable, the supplier will be contacted by their Tenneco Buyer, moving the process to the second step, which is on-site evaluation by Tenneco at the supplier's location. Suppliers shall allow Tenneco to visit them, as per [Tenneco GTCs](#), to verify suppliers compliance to the requirements of this manual.

4.4 Supplier Types

Supplier Type	Service Description	Certification and Qualification Requirements
General Requirements for all supplier types	For all supplier types the requirements listed in General Requirements.	<ul style="list-style-type: none"> • Acceptance of Tenneco Supplier Code of Conduct. • EU SCIP requirements, where applicable. (See section 9). • Supply Chain Security for all direct material suppliers shipping cross-border. • GTCs acceptance.
Calibration Laboratory	Calibration and/or service of inspection and test equipment	External laboratories shall be qualified / certified according to the requirements of the IATF16949 standard – Clause 7.1.5.3.2, including any published IATF Sanctioned Interpretations.
Chemicals – Direct Material	Chemicals that are direct inputs into the final product. Examples -	<ul style="list-style-type: none"> • ISO 9001 and/or IATF 16949 certification. • Supplier Initial Self-Assessment. • Tenneco Initial Assessment.

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Supplier Type	Service Description	Certification and Qualification Requirements
	anodizing chemicals, plating chemicals, paint, etc.	<ul style="list-style-type: none"> Conflict Minerals / Responsible Sourcing Declaration. Product approval at Tenneco site before mass procurement. REACH / SCIP / RoHS compliance if shipping to the EU. Proposition 65. Tenneco Materials Black and Grey List. Global Automotive Declarable Substances List (GADSL). Material Safety Data Sheet.
Chemical - Other	Chemicals not used in the final product. Examples – Cleaning supplies, hydraulic oil, other maintenance chemicals.	<ul style="list-style-type: none"> ISO 9001 certification preferred. Material Safety Data Sheet. REACH / SCIP / RoHS compliance if shipping to the EU. Proposition 65. Tenneco Materials Black and Grey List.
Direct Materials and Services	Materials or services that are direct inputs into the final product or are the final product. Examples include: <ul style="list-style-type: none"> Suppliers of raw material Purchased components Other finishing services Sub assembly Finished products for resale 	<ul style="list-style-type: none"> ISO9001 and/or IATF 16949 certification. Supplier Initial Self-Assessment. Tenneco Initial Assessment. REACH / SCIP / RoHS compliance if shipping chemicals to the EU. Also see Special Processes below. Material Safety Data Sheet (as applicable).
	<ul style="list-style-type: none"> Sequencing Re-work suppliers Sorting Quality Inspection Packaging of sold products 	<ul style="list-style-type: none"> ISO 9001 or Tenneco Assessment
Special Processes Direct (OE)	<ul style="list-style-type: none"> CQI-9 Heat treat CQI-11 Plating CQI-12 Coating CQI-15 Welding CQI-17 Soldering CQI-23 Molding CQI-27 Casting 	<ul style="list-style-type: none"> ISO 9001 and/or IATF 16949 certification. Current CQI Self-Assessment. Annual CQI self-assessment by supplier uploaded into Supplier Portal or email to the applicable Tenneco Buyer. Tenneco Initial Assessment / approval.
Outsourced Processes	Affecting the final product i.e.: <ul style="list-style-type: none"> Cutting of steels Packing Assembling 	<ul style="list-style-type: none"> ISO 9001 and/or IATF 16949 certification. Tenneco Initial Assessment / approval.
	<ul style="list-style-type: none"> Destruction / disposal of nonconforming products. See IATF16949 FAQ-11 – (8.7.1.7) 	<ul style="list-style-type: none"> No certification required. Site to periodically audit supplier to ensure specified process is being followed.
Prototype	Samples for prototype for pre-production testing, reverse-engineering.	<ul style="list-style-type: none"> No qualification or certification required for prototype suppliers unless specifically required by individual Business Units / Product Lines / Engineering Teams.
Pre-Production	No production saleable parts are allowed.	<ul style="list-style-type: none"> ISO 9001 and/or IATF 16949 certification required for suppliers that may become suppliers for serial production. REACH / SCIP / RoHS compliance if shipping to the EU.
Distributor	Distribute direct material product manufactured by another organization.	<ul style="list-style-type: none"> ISO 9001 certification and/or MAQMSR required from distributor or the manufacturer. Tenneco Initial-Assessment and/or Initial Self-Assessment.
Warehouses (External)	Distribution of direct material product manufactured by same organization from a different location.	<ul style="list-style-type: none"> Supplier Initial Self-Assessment. No certification required provided the location falls under the control of the manufacturing site's QMS. If warehouse is a standalone organization, then ISO 9001 certification is recommended, or a Tenneco on-site assessment required.

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Supplier Type	Service Description	Certification and Qualification Requirements
Dealerships	Provides OEM certified parts. This supplier shall only purchase parts from an OE organization.	<ul style="list-style-type: none"> No qualification or certification required. Statement from supplier on company letterhead that they are only to ship OES certified parts.
Indirect Maintenance, Repair, and Operating Supplies	Materials and/or services required to run daily business activities that effect product integrity.	<ul style="list-style-type: none"> General requirements.
Indirect Services	Indirect services that do not directly affect product integrity, for example: Cleaning Services, Market Research, Service of machinery, Clinic Services, etc.	<ul style="list-style-type: none"> Non-Disclosure Agreement. Professional qualifications and licensing, as applicable depending on type of service.
Direct Packaging: - <ul style="list-style-type: none"> Printed Corrugated Cardboard boxes Returnable* 	Blister cards, or other non-returnable packaging, etc., included in sale of the final product. Examples include product boxes and folding cartons. Returnable packaging for the final product.	<ul style="list-style-type: none"> ISO 9001 or ISO/TS 22002-1. Tenneco Initial Assessment / approval is mandatory for non-ISO certified suppliers, optional for ISO certified suppliers. Supplier Self-Assessment form is recommended in both cases. *No Initial Assessment is required for standard returnable packaging.
Indirect Packaging	Packaging for transporting the final product such as plastic bags, VCI (Vapor Corrosion Inhibitor), cardboard separators, labels, internal WIP packaging, ink, inserts / dividers, wooden pallets, shrink wrap, WIP racks, etc.	<ul style="list-style-type: none"> ISO 9001 certification preferred. Heat-treated wooden pallets: Require phytosanitary compliance (ISPM-15) and all Customer Specific Requirements. (Also see section 7.1.3 of this manual).
Tooling (New and Refurbishing)	A supplier providing tooling for the manufacture of direct materials into the final product, and which has an immediate impact upon final product characteristics; including specialty tool and die shops.	<ul style="list-style-type: none"> ISO 9001 certification preferred. Tooling purchases shall comply with local site tooling approval process.
Perishable Tooling	Suppliers of 'Off-the-Shelf' replaceable tools such as: Drill Bits, Cutting Tips (inserts), Grinding Wheels, Linishing Belts, etc.	<ul style="list-style-type: none"> Certification and general requirements preferred. Tooling purchases shall comply with local site tooling approval process.
Freight/Transportation Companies	A supplier who provides transportation of product.	<ul style="list-style-type: none"> ISO 9001 certification preferred. Supplier shall be qualified in line with global transportation procedures (see section 7).
Automotive product related software or automotive products embedded with software.	A supplier who manufactures or sells Automotive product related software or embedded software.	<ul style="list-style-type: none"> ISO 9001 and/or IATF 16494 certification Initial Self-Assessment Audit is mandatory at Suppliers manufacturing / development location together with software capability assessment. Supplier validated software development system and validated software functionality. Automotive SPICE – ISO15504 – Level-2 minimum.

4.5 Request for Quotation (RFQ)

The RFQ process shall establish the timing, feasibility, and costs for each element of a component/material/service. Therefore, it is critical that suppliers provide a full cost breakdown with all other required information within the specified timeframe.

4.6 Scheduling and Shipping

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Scheduling Agreements / Purchase Orders (sometimes called “blanket purchase orders”) are typically issued to a supplier by Tenneco Purchasing. Each Tenneco plant will issue forecasts and releases for each part number(s) used at the plant. Scheduling agreements are updated as parts in the supplier’s portfolio change.

Shipping releases are issued to cover specific quantities of parts or materials due on specific dates at specific Tenneco plants; suppliers are required to use either Tenneco’s web-based supplier collaboration tool or traditional EDI.

Orders issued to cover special processing of materials by the supplier are referred to as ‘Service Orders’, which may be one-time buys (spot-buys) or blanket contracts.

4.7 Inventory and Safety Stock

Tenneco shall not be liable for supplier inventory exceeding the quantities agreed in the contract. Tenneco may return over-shipped product to suppliers at supplier’s expense for all packing, handling, sorting, and transportation costs. From time to time, and with reasonable notice, Tenneco may change or temporarily suspend shipping schedules specified in shipping releases. Additional requirements established on service agreements or material release orders may apply. Supplier shall maintain, at their expense and risk, at least two weeks safety stock (or such additional safety stock as specified elsewhere) of materials, components, and finished products at the most current design level to ensure on-time delivery of Tenneco’s ordered quantities.

Unless otherwise agreed by buyer in writing, the firm period of Buyer’s production release at their expense and risk is defined as two (2) weeks’ finished goods, two (2) weeks’ work-in-progress and two (2) weeks’ raw material at the most current design level to ensure on-time delivery of Tenneco’s ordered quantities.

If the parties’ purchasing documents do not specify a quantity, or they provide for a quantity of zero, “blanket,” “per release” or the like, supplier will maintain capacity to supply Tenneco’s peak daily, weekly, and annual needs for products.

Supplier’s finished goods inventory shall be maintained at a level to ensure Tenneco plant production plans are protected. An escalation process shall be established to notify Tenneco receiving plants if inventory reaches critical levels. For export suppliers utilizing regional warehouses, the escalation process should include critical levels for an internal escalation (supplier manufacturing site notification) and level for an external escalation (Tenneco receiving plant notification).

(One (1) week of safety stock will be calculated as the next 12 weeks forecast divided by 12). If the parties’ purchasing documents do not specify a quantity, or they provide for a quantity of zero, “blanket,” “per release” or the like, supplier will maintain capacity to supply Tenneco’s peak daily, weekly, and annual needs for products.

Note – Tenneco directed-buy materials that deviate from the process established herein shall receive Tenneco pre-approval through the Tenneco ‘Process / Part Change Notification’ (PCN) - QUAL-00021 available on the [Tenneco Supplier Portal](#).

4.8 Contingency Planning (Also see [section 3.3](#))

Suppliers shall establish standardized methods for identifying, evaluating, and mitigating risks that could potentially jeopardize on-time delivery or quality of products or services supplied to Tenneco. Results shall be documented in Contingency Plans that ensure:

1. Risks to business continuation due to key equipment breakdown and external influences or natural disasters (fire, flood, tornados, etc.) are documented, evaluated, and disaster recovery plans are in place.
2. Mitigation plans are developed, implemented, and periodically tested to avoid or significantly reduce foreseeable risks,
3. Design of robust and validated reaction plans when risk cannot be mitigated to acceptable levels. Reaction plans shall include contact names and contact information for each identified risk and may be in the form of an Escalation Matrix.
4. Contingency plans and contact information shall be reviewed annually, at a minimum.
5. Steps shall include validation of process and product at re-start.

4.9 Business Review Meetings

To ensure that Tenneco and supplier resources are effectively and strategically planned and utilized, from time-to-time Tenneco may invite key suppliers to business review meetings where information on the current state and future direction of business will be shared. This will allow suppliers to effectively plan and deploy resources in supplying Tenneco with the highest quality, best cost product and service.

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4.10 Prices

To effectively manage cost control programs, and Tenneco pricing policy, it is necessary to clearly understand the inflationary pressures faced by suppliers. Suppliers shall offer suggestions for ways in which price increase may be avoided. These may include substituted products, alternative materials, and process improvements. Tenneco policy is to favor cost effective suppliers by rewarding them with increased levels of business, whenever possible. Any process or material changes shall comply with the Tenneco Process Change Notification process, refer to PPAP approval process. Index detail and a representative cost model quantifying potential impacts, along with improvement initiatives, should be presented to the Tenneco Buyer in advance of any future pricing discussions. Unless expressly agreed otherwise the agreed price includes packaging.

If price is omitted from Tenneco Purchase Orders, supplier's price will be the lowest prevailing market price.

4.11 Payments, Terms and Conditions

Payment terms are as indicated in the applicable purchasing documents. Payable date is based on the date of receipt of the goods, and not on invoice date.

All purchasing documents (including Supply Agreements, Scheduling Agreements, and Purchase Orders) issued by Tenneco Global Terms and Conditions and other documents, policies, and terms are accessible at <https://tsp.tenneco.com> as amended from time to time, including (i) this manual, and (ii) Tenneco's general terms and conditions of purchase.

5. **Supplier Performance and Engineering Requirements**

5.1 Quality Management System Requirements

In alignment with IATF16949 and CSRs, Tenneco requires all OE direct suppliers to develop, implement, improve, and maintain a quality management system certified to IATF16949, which states: *"Suppliers of automotive products and services shall develop, implement and improve a quality management system certified to ISO9001 with an ultimate objective of becoming certified to IATF16949"*. Failure of OE suppliers to obtain IATF16949 certification may jeopardize future business with Tenneco.

Suppliers of Aftermarket products, or direct materials used by Tenneco in the manufacture of Aftermarket products, refer to '[Supplier Types](#)' table above for more details.

Suppliers shall upload their current quality certificate(s) into their respective [Supplier Monitoring Application](#), and/or email a copy to their Tenneco Buyer to assist with the upload. Certificates shall be updated by the supplier at the beginning of each new three-year certification cycle, or other significant change to the certificate.

If quality certification is withdrawn by the issuing certification body or the supplier, by its own action, cancels their quality certification or allows it to lapse, the supplier shall notify their Tenneco Buyer and all Tenneco manufacturing locations they supply within five (5) working days.

Note – If a supplier either: (a) provides < \$150,000 annual sales and may not have adequate resources to certify to IATF 16949 or ISO 9001, or (b) has automotive sales that are less than 5% of its total business revenue, Tenneco may waive the IATF 16949 or ISO 9001 certification requirement. In considering such waiver, Tenneco may consider the type of product(s) supplied, quality system effectiveness, manufacturing and delivery systems capability, actual performance history and any risk to Tenneco prior to granting a waiver. Receipt of a waiver does not absolve the supplier of responsibility for maintaining an effective Quality Management System. Tenneco reserve the right to re-evaluate suppliers periodically based on the level of risk.

5.2 Engineering Design Rules and CAD Requirements

Supplier shall comply with Tenneco drawing / specification requirements and CAD standards. If questions arise regarding these requirements, suppliers shall contact the Tenneco Product Engineers.

5.3 Advanced Product Quality Planning (APQP)

On notification of supplier selection, it is the supplier's responsibility to provide support and resources for APQP activity in accordance with the AIAG APQP Core Tools Manual for OE parts or Tenneco NPI requirements for Aftermarket parts. The supplier shall use Tenneco APQP (OE), NPI (AM) tracking templates to communicate the status of the APQP Process.

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APQP / NPI steps shall include:

Feasibility Review – Suppliers shall evaluate Tenneco specifications, such as, engineering requirements and drawings / prints, including environmental and any other applicable statutory and regulatory requirements, to determine their ability / feasibility of meeting them. The feasibility review is a supplier's acknowledgement that provided parts and specifications have been thoroughly reviewed and can be achieved. Parts determined "not feasible" should come with recommendations of what changes would make it "feasible". Feasibility concerns shall be documented and uploaded as part of the quote package into the relevant [Supplier Monitoring Application](#) as per 'request for quotation' instructions.

Packaging Planning – Appropriate protective packaging to preserve product quality is to be considered during feasibility evaluation. Suppliers shall identify appropriate packaging, to ensure products arrive at Tenneco plants free of any damage, deterioration, or contamination. Packaging systems must also support transportation, storage and handling methods and be approved by the Tenneco Packaging Team. For additional information on Motorparts Aftermarket packaging requirements also refer to CORP-00090 – Global Distribution Centre Shipping, on the [Tenneco Supplier Portal](#).

OE Launch Containment Requirements / Process – A robust Launch Containment process, defined by the Tenneco receiving facility, is mandatory and begins when the supplier is awarded the part. Suppliers shall ensure:

- Sample parts are 100% inspected to drawing / print requirements,
- Tenneco receiving plant Supplier Quality Team is notified of all non-conformances,
- Parts are identified / labeled as 'sample phase parts',
- Parts are shipped to the nominated Tenneco facility – including sample parts shipped during pre-launch.

Suppliers shall develop an internal containment plan to ensure Tenneco receives properly identified, 100% compliant and defect free product. Any exception must be approved in writing by the Tenneco facility Quality Manager before shipment is made.

Containment Plans shall confirm statistical capability of Significant and/or Critical Characteristics and PTCs as identified in the supplier's Control Plan. Other required characteristics may be added at the discretion of the Tenneco receiving facilities.

Suppliers shall submit Containment Plans, together with inspection criteria, into the relevant [Supplier Monitoring Application](#) prior to PPAP submission.

OE suppliers shall document and maintain containment results, in accordance with the approved Control Plan, using an I-Chart form. I-Charts shall be sent daily, or as agreed with the receiving site, until completion of safe launch. For a Launch Containment Form, contact your Tenneco Buyer.

OE Containment period commences on first shipment after PPAP approval and continues for a minimum of 60 days after initial shipment, but no less than 10 defect free shipments after SOP for low volume. However, OE CSRs shall be applied if they exceed Tenneco requirements. At the discretion of the Tenneco receiving facility, Containment may be extended until PCAs are completed, and no defects are found. Suppliers may exit the containment process only once the end of the containment period had been reached with no issues identified by the supplier or by the Tenneco receiving plant. Suppliers shall contact the Tenneco receiving plant to request written approval for containment exit.

Problems identified during containment shall extend containment for an additional 30-day minimum period, without any further defects after implementation of mandatory corrective action or through the original containment period, whichever is the longer.

Aftermarket Launch Containment shall be as specified by the Quality Manager of the Tenneco Receiving Site for each specific project. For launch containment labelling guidelines, contact your Tenneco Buyer.

Note – Tenneco end user CSR regarding containment shall be followed and OE customers may increase the containment period based on severity of issue and/or other valid reasons. Tenneco receiving plant may also require individual part certification. Shipment of nonconforming product can result in controlled shipping status.

5.4 Capacity Verification

For OE, Capacity Verification (Run@Rate) is required to verify that the supplier's manufacturing process can produce products that meet Tenneco's on-going quality requirements, at quoted equipment (machines & tooling) capacity for a specified period. The Run@Rate shall be used to ensure the supplier has appropriate capacity and can meet Tenneco expectations. For Aftermarket, Run@Rate and/or an alternative capacity verification will be requested when required.

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The Run@Rate should be done after the supplier has established the serial process and prior PPAP but no later than start of production acceleration. The Tenneco 'Capacity Verification' form can be used and is available on the [Tenneco Supplier Portal](#).

Although it is beneficial to do the Run@Rate as early as possible, a key consideration in establishing the Run@Rate date is the stability of the design (design freeze).

Run@Rate shall consider the available production time of the equipment needed and the daily maximum capacity rate (MCR), unless otherwise agreed with Tenneco.

If not otherwise specified, Tenneco defines:

- LCR = Least Capacity Rate (per day) = Annual Average Volume in a standard work week.
- MCR = Maximum Capacity Rate (per day) = Peak Annual Volume with 20% flexibility in an extended work week.

The Run@Rate is considered as "Approved" if the manufacturing process can meet the required daily MCR volume using no more than 90% of the available production time (line utilization).

The result is considered as "Approved with Caution" if the manufacturing process can meet the required daily MCR volume with a line utilization above 90%.

If the daily MCR demand cannot be achieved within the available production time, the Run@Rate status will be "Red", and the current capacity will be "Unacceptable". Corrective actions shall be applied, and a new Run@Rate completed.

During the Run@Rate, production tools shall be in place and process shall run at full production speed, utilizing regular production conditions, direct and indirect personnel, and support systems, excluding overtime as a factor.

The predetermined quantity of parts must be sufficient to demonstrate manufacturing process capability. Considered factors in determining the duration, are product complexity, shelf life, storage, cost, and single shift vs. multiple shift operations. The duration should be at a minimum 1 hour and at the maximum 2 days. The number of produced parts should be at a minimum 300 parts under serial production conditions. For low volume production, suppliers are required to contact the Tenneco Buyer to agree to a reduce production run, to accept a like or similar process to validate Run@Rate or agree to bypass a Run@Rate.

Tenneco reserves the right to be present on-site during the Run@Rate run. Additionally, Tenneco customer requirements may mandate that the supplier perform an audited Run@Rate (using customer's form or Tenneco's form based on the customer's specific requirement).

5.5 Production Part Approval Process (PPAP)

PPAP acceptance is mandatory for production parts and service suppliers to Tenneco. PPAP for OE parts shall be submitted in accordance with the latest AIAG Core Tools PPAP manual requirements. PPAP for Aftermarket parts shall be submitted in accordance with instructions provided by Tenneco for each individual case. Unless notified to the contrary, the default PPAP level is Level-3. Each supplying location shall submit, and obtain PPAP approval for, each part number (including packaging and labelling methods) prior to commencement of serial production shipment to Tenneco. Part or process changes after PPAP approval shall follow the Tenneco 'Process / Part Change Notification' (PCN) for process or 'Engineering Change Management' (ECM) for part.

Note – End user CSRs for PPAP take precedence over these stated requirements, as directed by the Tenneco Buyer.

OE PPAP Submission

Suppliers of OE parts shall complete and submit appropriate PPAP documentation, in English only, into the applicable [Supplier Monitoring Application](#) or by e-mail to the receiving Tenneco site. Supplier may request use of a local language if products are not for exportation. No serial production parts shall be shipped or received without PPAP approval.

Guidelines on Tenneco expectations are in the Tenneco PPAP guidelines and requirements for the PPAP available on the [Supplier Monitoring Application](#).

Each PPAP request defines the required PPAP submission level. Any PPAP level other than Level-3 requires written acceptance by the Tenneco receiving plant Quality Manager. Blanket statements of conformance are unacceptable for any test results and shall be cause for PPAP rejection. Applicable documents shall be maintained by the supplier regardless of submission level. These documents shall be made available to Tenneco upon request. Situations where the supply chain includes a warehouse distributor, the part manufacturer

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is required to submit a PPAP package to Tenneco for approval. Warehouse distributors shall not initiate shipments to any Tenneco location prior to receiving Tenneco PPAP approval.

All changes to required documents (Control Plan, FMEA, etc.) shall be resubmitted to the Tenneco plant PPAP originator. Bulk material suppliers should contact their Tenneco Buyer for specific requirements.

Note – PPAP approved steel mill raw material sources must remain the same unless approved through the PCN process.

Suppliers of parts for OEM's, who support the IMDS database, must register at the website: <https://www.mdssystem.com>. If registration is needed a confirmation of approval is required as soon as off-tool parts are available and confirmation is to be submitted with PPAP documentation. This letter shall clearly state the part numbers for which the data was entered, date of entry, and the ID node number.

Note – Suppliers shall provide IMDS / CAMDS information for items with previously approved PPAP's. This is in support of OEM's IMDS requirements for existing products.

To ensure compliance, Tenneco requires special controls (such as error-proofing, mistake-proofing, 100% inspection at station or during subsequent operations) for pass-through characteristics and/or pass-through parts.

Measurement equipment and methods shall be aligned between supplier and Tenneco receiving plants, where applicable, prior to PPAP.

Only under special circumstances, will Tenneco waive PPAP elements. Information needed to raise a written waiver shall be submitted to the receiving Tenneco plant Quality Manager. Tenneco reserves the right to decline waiver requests.

PPAP Submission – Sample Part(s)

Unless expressly waived by Tenneco, OE suppliers shall provide either a minimum of 6 samples, and/or 1 sample per cavity for multi-cavity / fixture processes (or up to 3 samples per cavity if requested), with one sample identified as "Master Sample" (see [5.19](#)), unless otherwise directed by Tenneco. These parts are to be randomly selected from a pre-serial production run and used in the dimensional results documentation of the PPAP submission. Aftermarket suppliers will receive instruction from the Tenneco receiving facility regarding the number of samples to be submitted.

The duration of the pre-production run shall be from one to eight hours, and with the total specific production quantity of a minimum of 300 consecutive parts, unless otherwise specified by the authorized Tenneco representative. Tenneco may require suppliers to run samples from all shifts expected to be used for serial production.

PPAP sample parts shall be shipped to the Tenneco approving plant(s) and shall be clearly identified as 'PPAP Samples'. The label shall bear clear details of part number, production date and program name. Supplier shall retain, and maintain on-site, properly identified master PPAP samples (see [5.19](#)).

Note – PPAP samples and the creation / submission of PPAP documentation is at the supplier's expense, unless otherwise defined in the nomination.

Design Records

Suppliers shall obtain Tenneco design documents (drawing / print, specifications, technical documents) through applicable [Supplier Monitoring Application](#). These documents shall be reviewed by the supplier to ensure the supplier's ability to meet contractual requirements and used in preparation for PPAP submission.

Note – Revisions made to Tenneco drawings / prints shall initiate a new PPAP request for current revision.

5.6 Special Characteristics

Tenneco will document special characteristics (SCs) as an output of the design process and communicate them, as applicable, to suppliers who shall comply with these characteristics by notation on process control documents, including drawing / print, FMEA, Control Plan, and Operator Instructions. Special Characteristics shall be identified on these documents with Tenneco symbol or the supplier's equivalent. Suppliers shall perform on-going capability analysis on designated special characteristics (SCs). CpK target for SC's is >1.67 minimum for short term capability and >1.33 for long term capability.

Suppliers shall develop and maintain a training program for measurement, evaluation, and failure effects of Special Characteristics for all affected employees. The Tenneco receiving plant may wish to approve / verify the program.

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Pass-through part characteristics (PTCs) shall be reflected in the supplier Control Plan / FMEA and identified as "Pass Through" with additional controls in place (i.e., poka-yokes, gauges, etc.) to ensure Tenneco and the final customer is protected.

For suppliers of OE parts, components, or materials, and Aftermarket components and materials, the above stated in section 5.6 is a 'shall' requirement. For suppliers of Aftermarket finished goods, the above stated in section 5.6 is a 'should' requirement unless the supplier is informed by Tenneco to the contrary.

5.7 Engineering Changes

Written approval from Tenneco Engineering and Quality is needed for changes that are not incorporated in the design records.

Engineering Approval

Any deviation from original approved drawing / print or specification requires written Tenneco Engineering approval. Suppliers shall follow the Tenneco deviation process when requesting a deviation. A 125-piece (minimum) capability study and a 6-piece layout study for each item shall accompany all deviation requests.

5.8 Design Failure Mode and Effects Analysis (DFMEA)

Design responsible suppliers of OE parts shall, and design responsible suppliers of Aftermarket parts should:

- Develop DFMEA's and in accordance with the latest version of the AIAG FMEA or AIAG / VDA Core Tools Manual,
- Review (at least annually) DFMEA's and update as necessary,
- Transfer DFMEA Severity ratings between 5 - 8 and Occurrence between 4 – 10 to PFMEAs for team focus / mitigation,
- Transfer DFMEA Severity ratings of 9 or 10 to PFMEAs for team focus and development of appropriate process Error-Proofing, Error-Detection or Fail-Safe controls and continually improve process capability. Whenever possible Error-Proofing is preferable to Error-Detection in both product and process design.

If Tenneco is design responsible, a review of the PFMEA severity rating by a Tenneco Product Engineer shall be completed in lieu of a DFMEA and the severity ratings passed on to the supplier.

5.9 Process Flow Diagram

Tenneco requires suppliers to have Process Flow Diagrams that clearly define manufacturing process steps / sequences with critical, high-impact, special, key, significant and pass-through characteristics noted as appropriate in each process step.

5.10 Process Failure Mode and Effects Analysis (PFMEA)

Where Tenneco or its customer is design responsible, assignment of severity values on the supplier's PFMEA may require an approval by a Tenneco Product Engineer.

With reference to PFMEA, Tenneco requires that:

- If Severity level is greater than 8, Error-Proofing / Poka-Yoke techniques are required unless a written deviation is granted by Tenneco Engineering and receiving plant Quality.
- If Severity is 5 to 8, and Occurrence 4 to 10, special controls are required. Please refer to requirements in above section.
- Severity ratings of 9 or 10, development of appropriate process Error-Proofing, Error-Detection or Fail-Safe controls and continually improve process capability. Whenever possible Error-Proofing is preferable to Error-Detection in both product and process design.
- At a minimum, PFMEAs shall be reviewed annually in accordance with the AIAG or the AIAG/VDA FMEA Manual and shall be reviewed as part of the investigation of every customer complaint.
- Product characteristics and process parameters identified in the PFMEA as a 'special' or 'pass-through' characteristic will also be identified the same way in the Control Plan, with appropriate effective methods of process control assigned.
- Pass-Through Characteristics shall be ranked with a Severity of 5 minimum and aligned with the DFMEA severity rating.
- The supplier shall indicate review of high RPNs and note in the corrective action plan for risk mitigation or risk reduction.
- A clear link between the DFMEA, Process Flow Diagram, PFMEA, Control Plan, and Standard Work Instructions must be evident. Nomenclature of process references shall be consistent throughout Flow Diagram, FMEA and Control Plan.

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5.11 Dimensional Results

The supplier shall provide evidence that dimensional verification required by the design record and the Control Plan have been completed and results indicate compliance with requirements.

The supplier shall indicate the date of the design record, change level; any authorized engineering change documents included. Supplier shall inspect and supply initial samples provided from production tooling and set-up according to the quantities specified in Section 5.5 above.

Supplier shall provide the balloon drawing of each dimension and all notes, specifications, and correlations to the dimensional report. All drawing / print notes shall be addressed in the dimensional report and each part must be numbered with the number associated with the applicable dimensional report.

5.12 Materials / Performance Test Results

Evidence of compliance shall be submitted per AIAG guidelines or international standards, unless otherwise specified.

Material Results: The supplier shall perform tests for all parts and product materials when chemical, physical, or metallurgical requirements are specified by the design record or Control Plan. Material test results and certificates shall not be older than 12 months from the final submission date, unless agreed in advance by Tenneco.

Performance Test Results: The supplier shall perform tests for all parts or product materials when performance or functional requirements are specified by the design record. Unless otherwise agreed in writing by Tenneco in advance, external performance testing done by the supplier shall be performed by an accredited lab at the supplier's cost.

5.13 Capability Studies

Tenneco requires OE suppliers, deemed relevant by the Tenneco receiving facility, to perform process studies on product characteristics or process parameters to verify process capability and to provide additional input for process control to ensure compliance to selected drawing / print specifications. Measurement system must be confirmed as acceptable for that feature from Tenneco receiving plant and AIAG MSA Core Tools Manual.

Selected part characteristics for which process capability is to be demonstrated include the selected characteristics on the drawing / print, Control Plan and characteristics which may prevent the shipment of non-conforming product regardless of the location in the supply chain. For the testing of all critical characteristics / significant characteristics and PTC's, select pieces from a significant run by taking 1 part for every 5 parts ran until 125 parts are sampled (subgroups of 25), unless otherwise specified in writing by Tenneco PPAP requester.

Before starting the manufacturing process, suppliers shall conduct the preliminary capability studies.

The below table summarizes Tenneco's inspection and testing / performance reporting requirements, and the requirements for product characteristic and process parameter capability studies. Also summarized, are the requirements for MSA studies:

Part Type	Feature Type	Dimensional Report	Performance Test Report	Capability (From Significant Run)	Measurement System Analysis		
					Dimensional	Material Test	Visual Inspection
OE	SC & PTC	Mandatory	Mandatory	Mandatory >1.67	Mandatory <10% of tol.	Mandatory <10% of tol.	Mandatory
	General	Mandatory		*Optional >1.33			*Optional
AM	SC & PTC	Mandatory	Mandatory	Preferred >1.67	Preferred	Preferred	Preferred
	General	*Optional		*Optional >1.33			*Optional
Qty	→	All features	All materials	1 in 5 until 125 parts (sub-groups of 25 parts)	As per AIAG – MSA Core Tools Manual		
Source	Tenneco	AIAG – PPAP		AIAG – SPC	AIAG –MSA Core Tools Manual		

If deviation from the requirements shown in the above table is needed by suppliers, a waiver for each affected project / part number shall be requested from the Quality Manager of the Tenneco the receiving plant(s).

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***Optional** – Only when specifically requested by the Tenneco receiving facility. Capability requirement may be >1.67 for short term and >1.33 for long term, if requested.

5.13.1 Acceptance Criteria for Initial Study:

Suppliers shall use the following acceptance criteria to evaluate initial process study results for processes that appear stable:

Note – Meeting the initial process study capability acceptance criteria is one of several customer requirements that may lead to an approved PPAP submission.

Sample parts shall be taken from a stable, controlled process and include the full range of expected process variation (e.g., the actual manufacturing environment, including all tools, cavities, shifts, expected operating patterns and variation in environmental conditions). Post launch containment, ongoing production process capabilities must be 1.67 minimum when required.

For OE production, process capability results shall be submitted with the PPAP. Evidence of compliance with AIAG guidelines is required, unless otherwise specified. For Aftermarket production, process capability results shall be submitted as required by the Tenneco receiving plant. Tenneco may request a copy of any analysis performed for any ongoing production capabilities.

5.14 Measurement System Analysis (MSA) – For guidance on MSA refer to the latest [AIAG MSA Core Tools Manual](#)

MSA studies are required for gauges, measuring and test equipment identified on the Control Plan. Gauge studies shall comply with AIAG guidelines and end-user customer specific requirements.

5.14.1 Variable Gauge R&R

Suppliers shall report gauge R&R as both a percent of study variation and a percent of tolerance.

Variable gauge studies should utilize 30 parts (at a minimum), 3 operators and 3 trials. Gauge R&R should use the full range of part-to-part variation from the process representing all expected sources of manufacturing variation, while providing enough resolution around the upper and lower specification limit with parts validated on CMM or equivalent variable gauging.

It is the supplier's responsibility to provide necessary equipment to carry out engineering tests specified on drawings, unless otherwise agreed in writing by Tenneco Engineering and Quality.

For destructive type testing devices '[Nested R&R](#)' methodology shall be utilized.

5.14.2 Attribute Gauge R&R

Attribute gauge R&R shall consist of 50 pieces (min) unless it is an SC or CC on the drawing / print or process capability is below minimum acceptance criteria. In these cases, or where CSRs dictate otherwise, 125 pieces are required.

A gauge shall reject all parts that are outside specification limits. All Kappa values shall be greater than 0.75.

Parts for attribute gauge R&Rs Study shall consist of:

25%	Near the lower specification limit (on both sides of the limit).
25%	Near the upper specification limit (on both sides of the limit).
30%	Should represent the expected process variation.
10%	Outside upper gauge specification limit and beyond the 25% of the parts near the limit as described above.
10%	Outside the lower gauge specification limit and beyond the 25% of the parts near the limit as described above.

Depending on the type of characteristic, the above parts should be independently measured with a CMM or equivalent variable gauging so that the actual physical measurement of each part is known.

Note¹ - When measuring a true attribute that cannot be measured with a variable gauge, to pre-determine which samples are good or non-conforming, use fit / form / function with the Tenneco receiving plant.

Note² - Attribute gauge R&R must also be used to qualify, and periodically verify, inspectors performing visual inspection.

5.14.3 Measurement System Gauge Correlation (MSC) - For guidance refer to the latest [AIAG SPC Core Tools Manual](#)

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Establishing a relationship between Tenneco and the supplier by comparing 2 or more measuring instruments required by guidelines below.

The MSC requires 10 parts minimum to be numbered and measured on all instruments to be correlated

- Strategically select the parts used for the MSC study: parts should have values that are evenly distributed, spanning the full tolerance range
- The measurement systems being assessed shall be properly calibrated using standard operating practice prior to MSC
- The measurement systems being assessed shall also pass gauge R&Rs
- Randomizing the order of measurement of the parts during MSC is a best practice.

Utilize type 1 study to verify the correlation level between the instruments. Tenneco recommends the use of [Minitab](#) to perform calculations and analysis.

5.15 External Qualified Laboratory Documentation

ISO 17025 Certification is required – Refer to the latest revision of [IATF Sanctioned Interpretation](#) number 10.

5.16 Control Plan (CP) – For guidance refer to the latest [AIAG APQP and Control Plan Core Tools Manual](#)

Using input from the PFMEA suppliers shall develop Control Plans showing all CCs, SCs, engineering specification tests and process parameters related to the product. Control Plans must be completed in compliance to the AIAG manual unless otherwise authorized by a Tenneco representative. Tenneco shall review the Control Plan prior to PPAP submission, and a copy of the Control Plan shall be submitted with the final PPAP submission for review by the Tenneco receiving facility.

Tenneco annual part re-validation requirements shall be documented in the supplier's Control Plan. Suppliers shall perform annual process / product audits which shall be documented in the supplier's Control Plan.

Control Plans for “part families” are acceptable when part families are used; specific part numbers associated with a part family shall be identified.

5.17 Part Submission Warrant (PSW)

Part submission warrant (PSW) shall be complete (leaving no blank spaces). A PSW submitted without appropriate approval signature, phone number, and date of submission will be cause for rejection. If the product deviates from the drawing / print it shall be noted in the comment section of the PSW.

5.18 Appearance Item Approval

Appearance item approval shall be reported in accordance with any notes on the drawing / print or specification.

5.19 Master Samples

Master samples shall be retained as defined in the latest revision of the [AIAG PPAP Core Tools Manual](#) (section 2.2.15)

5.20 Checking Aids

Where checking aids (mylars, product specific gauges, etc.) are used, suppliers shall certify that all aspects of these aids comply with product and drawing / print requirements. Suppliers shall establish appropriate preventive maintenance for checking aids for the life of the part. The checking aids must be controlled and, where applicable, calibrated.

5.21 OE Customer Specific Requirements (CSRs) – Tenneco and End User

Tenneco defines its specific requirements through this manual. In addition, Tenneco requires compliance to applicable end-user CSRs. For end-user CSR, please refer to [IATF Global Oversight](#) for OEM Customer Specific Requirements. For OEM customers not listed on the IATF Website, please go directly to the customer's website.

5.22 OE Process Audit Requirements (Not applicable to Aftermarket unless specifically requested by the Tenneco site)

Tenneco requires annual special process / product audit where Tenneco products are manufactured or processed with a method requiring a special audit (OE only).

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Note – Review the AIAG / VDA 6.3 list of special process audits. Special process assessment templates can be retrieved from the [AIAG website](#) for CQI and [customer portal for VDA](#).

Suppliers shall complete all applicable “Special Process & CQI Audits” annually. These assessments shall be uploaded to the applicable [Supplier Monitoring Application](#).

Tenneco requires an additional annual contamination assessment, where deemed relevant, to the Tenneco receiving facility. This must be updated if significant changes occur that may affect contamination. This assessment shall be uploaded to the applicable [Supplier Monitoring Application](#).

Suppliers shall manage their sub-suppliers to ensure special process audits (CQI & Contamination) are completed and made available to Tenneco on request.

For directed-buy suppliers, compliance with OEM CSRs and Special Process audits should be self-monitored and made available for Tenneco review on request.

5.23 [PPAP / NPI Approval](#)

For OE parts, the Tenneco receiving plant or other designated location will review PPAP samples and documentation and will approve, if acceptable. Requirements of IMDS / CAMDS, PROP65, REACH, RoHS, SCIP shall be included with the PPAP submission where applicable. For Aftermarket parts, NPI requirements will be communicated to the supplier by Tenneco.

If Tenneco or Tenneco’s customer owned tooling is involved, Tenneco requires a tooling purchase order (TPO) signed by the supplier. The purchase order and Vendor Tooling Registration (VTR) form shall be submitted prior to PPAP approval, clearly showing pictures of Tenneco or customer tags securely affixed to each tool. Refer to [section 6](#) for further information on tooling requirements.

Suppliers should have a nominated person(s) competent in preparing PPAP samples and reports for submission to Tenneco with the aim of first-time approval. Such competence shall include self-certification on [AIAG Core Tools Self-Assessment](#). Re-submission of PPAPs rejected by Tenneco could be subject to re-PPAP test fees. Refer to [Table 3](#) in section 5.35 for more information.

5.23.1 [Notification of PPAP Status to Suppliers](#)

A copy of the PSW, or electronic acceptance in the [Supplier Monitoring Application](#), will be sent to the supplier indicating PPAP status. If PPAP submission is rejected / returned, the supplier shall re-submit the elements that are non-conforming from the previous PPAP submission. Suppliers shall not ship production parts until Tenneco issues written PPAP approval or other formal authorization to ship.

5.23.2 [Approvals](#)

PPAP can be fully approved only if:

- The parts comply with the fit, form function according to Tenneco latest communicated design and specifications.
- All documents are included with the requested PPAP and meet requirements as specified in the Tenneco PPAP Guideline.

Tenneco reserves the right to validate the PPAP on site at supplier’s location.

5.23.3 [Interim Approvals](#)

Interim approval permits shipment of material for production requirements for a defined limited time or piece quantity. Fit, form and function impact shall be evaluated prior to issuing of interim approval.

Interim approval may be granted only when the supplier has:

- Evaluated the risk of the product in question and determined no impact to the end user.
- Prepared an action plan, approved by Tenneco, for correction of nonconforming features.

PPAP re-submission is required to obtain a status of "approved." If the part is interim approved, Tenneco may not pay supplier tooling invoices until all required documents have been submitted and accepted, i.e., dimensional issues, capacity etc.

5.23.4 [Rejected Status](#)

When a PPAP / NPI is rejected:

- Production part delivery is NOT allowed.

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- Tenneco cost fee may be applied.
- Supplier to prepare an action plan, reviewed and approved by Tenneco, to target re-submission date.

5.24 OE Quality / Annual Parts Re-Validation (Not applicable to Aftermarket unless requested by the receiving site)

Tenneco requires suppliers, deemed relevant to the Tenneco receiving facility, to complete annual re-validation to drawing / print / specification requirements of all Tenneco purchased parts on the anniversary of PPAP approval date, and each subsequent year thereafter. The annual part re-validation shall continue while the supplier is providing Tenneco parts for serial production. Re-validation reports shall be retained by the supplier and submitted to Tenneco only on request.

Note – Tenneco reserves the right to evaluate the need for re-validation of products required for service (OES) production.

When a characteristic is designated as “significant” on the design record, the supplier is required to conduct capability studies and retain them with the annual layout.

5.25 Parts or Materials Deviation Process

Tenneco requires adherence to Tenneco’s formal deviation process when the following situations arise:

- Tenneco production schedules require shipment of new / revised materials prior to PPAP; or
- Supplier discovers any type of non-conformance in a lot / batch, which is urgently needed to meet the Tenneco production schedule.

In either situation, the supplier shall obtain Tenneco’s written approval prior to making shipment. Acceptance of a deviation request is dependent on the nature and extent of the non-conformance and will not be effective unless authorized in writing to the supplier by Tenneco Engineering, Quality, etc., and/or customer as needed.

When a deviation request is required, the supplier shall notify the Tenneco Buyer of the situation with details as follows:

- The requirement not being met,
- A description of what is being requested,
- The quantity of parts affected,
- The required duration of the deviation in time or quantity of pieces.

Tenneco shall enter the deviation request into the Tenneco system and request approval from Tenneco Engineering / Quality and the affected Tenneco manufacturing site. Tenneco shall notify the supplier when the deviation request has been approved or rejected and provide copy of the deviation approval / rejection notice to the supplier.

The supplier shall include a copy of the approved deviation notice with shipments of parts to affected Tenneco facilities. The deviation number shall be clearly marked on all shipping papers and containers without affecting barcodes or other labels. Failure to obtain or display a deviation approval may result in a Material Rejection Report or SCAR and affect the supplier’s Quality Performance Score.

5.26 Process Change Authorization – Tenneco reserves the right to approve or deny any request made by the supplier to change a process or product.

Using form QUAL-00021 - Tenneco Process Change Note (PCN), suppliers shall inform Tenneco of all proposed changes. This worksheet shall include particulars of the change with enough detail to enable analysis by applicable Tenneco functions. The Tenneco Buyer shall inform the supplier in writing, of any approved design and/or process changes before implementation is permitted. QUAL-00021 is available on the [Tenneco Supplier Portal](#).

Due to Tenneco’s customer specific requirements (CSRs), the timing for PCN processing is dependent on Tenneco customer specified time frame to process request for change and may further be affected by any customer “blackout period” for change. Except for the Aftermarket, most changes cannot be made until approval is granted by Tenneco’s customer(s).

Changes requiring approval include, but are not limited to, changes to supplier’s PPAP approved process significant enough to require a change in process flow, significant process parameters, material, sub-supplier (including sub-supplier’s material) or a change in processing method, etc. For further details refer to the [AIAG PPAP Core Tools Manual](#).

The supplier shall submit a new PPAP (level 3). Parts with changes shall NOT be shipped prior to PPAP approval.

The supplier retains financial responsibility for unauthorized changes, including, but not limited to, Tenneco’s:

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- Costs of analysis,
- Remediation of product built from parts / materials with unauthorized changes,
- Sorting and inspection costs,
- Product recall and replacement costs,
- Transportation and disposal costs, and
- Related costs incurred from Tenneco's customer(s), including warranty claims, fines, etc.

Tenneco shall charge-back to the supplier costs incurred related to unauthorized change. Unauthorized change may result in suppliers being placed in Controlled Shipping level 1 or 2 (CS-1 or CS-2) Refer to [section 5.36](#) for further details.

5.27 Supplier Performance Requirements

Tenneco strives for ZERO DEFECTS, and we expect the same commitment from our suppliers. We reserve the right to take commensurate action against suppliers not meeting expected and agreed quality and delivery performance criteria. Suppliers shall continuously work to improve supplier scorecard scores and then maintain performance when 100% scores are attained. Suppliers of parts or materials shall maintain 100% on-time delivery.

Tenneco measures supplier performance monthly and communicates scores to suppliers who have not met defined performance criteria. Suppliers may receive their scores by email and/or self-download via the Tenneco [Supplier Monitoring Application](#). Suppliers who do not meet or exceed score requirements shall take immediate action to remediate performance back to Tenneco expectation. Failure to meet Tenneco requirements may lead to 'New Business Hold' or other further actions, as described in sections 5.32.1 and 5.32.2.

5.27.1 Quality, Delivery and Cost Performance

Supplier quality performance is measured, weighted, and evaluated as per the Tenneco supplier performance rating system, using the metrics laid out in [Appendix-2](#) for each of the Tenneco Business Units.

Changes to delivery schedule, unless accepted in advance, and in writing by Tenneco, are not accepted. SCARs can be raised against delivery nonconformance, and suppliers are required to respond with prompt, appropriate and effective corrective action.

Delivery discrepancies can be, but not limited to:

- **Labeling:** Any container not labeled in accordance with accepted Tenneco specifications.
- **Packaging:** Any container not meeting Tenneco Packaging Guidelines or not matching PPAP approved packaging methods.
- **Shipping Documentation:** Any shipment with incorrect documentation as per Tenneco requirements. (i.e., Country of origin).
- **Receipt Date:** Shipments received earlier or later than the agreed delivery date window.
- **Quantity:** Shipments containing quantities greater or less than the agreed order quantity.
- **Damage:** Packaging displaying damage that may affect product integrity or may represent a safety concern during handling.
- **Delivery Vehicles:** Suppliers shall ensure that vehicles delivering materials to Tenneco premises are roadworthy and fully comply with all local road traffic regulations, and that their drivers are properly licensed and certified. Vehicles found to be unroadworthy will not be granted access to Tenneco premises and a SCAR shall be raised against the supplier responsible.

It is the supplier's responsibility to ensure prompt and accurate closure of SCARs. Suppliers may contest delivery SCARs by contacting the issuing Tenneco site. SCARs issued to a supplier affect the individual supplier performance scorecard.

Suppliers retain financial responsibility for late delivery and nonconforming materials and for all related costs incurred resulting from quality or delivery nonconformance. This can include, but not limited to, premium freight to the Tenneco receiving site and to the final customer, overtime rates, inspection and sorting, disposal, repacking, rework, production line stoppage, etc.

The [Tenneco SCAR Systems](#) enable interactive communication and documentation of corrective actions with the supplier.

5.27.2 Service Parts Delivery Performance (OES only)

Supplier shall support a minimum of 15 years of OES part requirements after serial production has ended. This period can be extended for specific programs depending on OE Customer Specific Requirements.

Supplier shall ship to plant, release requirements during the service part lifetime utilizing appropriate and agreed containers.

5.28 Continuous Improvement (Also refer to section 3.3)

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Continuous improvement is essential in remaining successfully today's business environment. All suppliers shall have an active and effective process to continuously improve quality, service, timing, delivery, and cost to benefit both Tenneco and the supplier. Suppliers shall allow Tenneco access to Continuous Improvement activities during visits and Tenneco SQ/SD may support and share benefit of experience. Continuous improvement shall extend to all product characteristics with the highest priority on special characteristics.

Suppliers shall have a defined "Business Operating System" that formalizes the process of reviewing the key metrics of effectiveness and efficiency that act as indicators of overall facility performance.

Improvement made where the original targets have not been met are, by definition, corrective actions not continuous improvement.

5.29 Material Rejection

If nonconforming material is identified at a Tenneco site, the supplier will be notified in a timely manner through the [Tenneco SCAR Systems](#). Suppliers shall implement containment action or may discuss the validity of a SCAR with the issuing Tenneco site. All validated non-conformances will affect the supplier's overall performance rating. Containment measures shall be applied in all cases.

For timing of Corrective Action steps, refer to [SCAR Timing](#) in [Appendix-2](#)

Suppliers shall follow the SCAR process steps to ensure correct response to non-conformance. Regions that do not have a SCAR database system in place, will follow a manual process. See section 5.31 for more details on SCAR process steps.

The SCAR system used by the different Tenneco Business Lines can be found in: [Tenneco SCAR Systems](#), in [Appendix-2](#)

5.30 Disposition of Suspect or Nonconforming Material

In the event of shipment of suspect or non-conforming product to a Tenneco site, and/or Tenneco customer, caused by supplier nonconforming product, the supplier will be debited for all incurred Tenneco costs, including associated customer charges. Suppliers shall be involved with customer required sorting and on-site review as appropriate.

If supplier containment measures prove to be ineffective (i.e., Tenneco continues to receive defective material), the supplier may be placed on formal Controlled Shipping status. When requested, suppliers shall provide Return Material Authorization within 24-hours of SCAR initiation.

5.31 Corrective Action

Suppliers shall implement and record effective interim and permanent corrective actions for non-conformances identified and raised in SCARs.

Supplier Corrective Action shall reference the Tenneco SCAR number and follow the automotive best practice as outlined in [AIAG CQI-20](#) – Effective Problem-Solving Guide, and include: Team Members, Problem Description, Containment, Root Cause Analysis, Corrective Actions (including verification), and Preventive Actions. Documents such as FMEA, Control Plan and Work Instructions shall be reviewed and, when applicable, updated as part of the corrective action process.

For timing requirements of Corrective Action steps, refer to [SCAR Timing](#) in [Appendix-2](#)

5.32 Supplier Improvement Process

Suppliers who regularly fail to meet quality and/or delivery requirements may be placed into the Tenneco Supplier Improvement Process (SIP):

5.32.1 Main Offender Meeting (MOM)

Suppliers entering MOM may be required to attend a meeting to present their improvement plan when they meet any of the criteria listed below. The plan shall present actions to improve performance within 3 months. Suppliers may move directly to SIP based on impact to the Tenneco sites:

- Four SCARs (excluding informational SCARs) per rolling three months by receiving location.
- SCAR response not meeting timing requirements, at the discretion of Tenneco.
- Production disruption, on-going quality issues, or any other performance issue raised by SQ, Plant & Buyer recommendation.
- Supplier receives a developmental rating on the Supplier Score Card – Refer to [Appendix-2](#)

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If performance does not improve in the required three-month time frame and/or a reject is found at a Tenneco facility the supplier can be placed into SIP.

Once the supplier has closed-out all action items and has met the exit criteria for three month rolling zero SCAR/PPM, an on-site assessment may be scheduled. Upon verification of the results and a passing assessment score, Tenneco will notify the supplier that the exit criteria have been met, and the supplier will be released from MOM. All charges pertaining to the SCAR must be paid prior to exiting.

5.32.2 Supplier Improvement Program (SIP)

Suppliers to Tenneco who fail to meet quality and/or delivery requirements during MOM monitoring shall enter the Supplier Improvement Program and suppliers on SIP may be placed on New Business Hold.

The below process will be followed:

- **Initial Contact** – Suppliers placed in SIP will be notified by letter. Suppliers will then be contacted by the Supplier Development team and on-site or virtual meetings will be scheduled.
Preliminary supplier meetings shall include an overview of SIP, a review of issues leading to SIP, an on-site audit of the supplier's processes, and a discussion of containment activities, as appropriate.
Suppliers are required to present, preferably at Tenneco site to Tenneco management. These meetings are scheduled monthly but may change depending on supplier performance. Required supplier attendees are senior management representatives from operations, sales, quality, and engineering, or equivalent.
- **Follow-Up Visits to Review Improvement** – Review supplier's 8D during each visit. Implemented validated improvements should be presented, including Action Plan with timing and responsibility. Review updated FMEA, Control Plan and other applicable documents.
- **Exit Criteria** – The supplier can exit SIP when all action items are verified and closed-out by Tenneco, all exit criteria have been sustained for three-rolling months, and all agreed costs related to the SCAR have been paid. Then Tenneco will officially release the supplier from SIP and notify the Tenneco team involved.

5.33 Controlled Shipping

Controlled Shipping may be initiated by Tenneco to protect Tenneco from the escape of nonconforming material from the supplier's premises. Supplier's will be notified when either Controlled Shipping Level 1 or Level 2 is initiated. Suppliers shall formally acknowledge receipt of CS-1 or CS-2 within 24 hours of receipt using the response section on the form, failure to respond may initiate New Business Hold:

- **Controlled Shipping Level 1:** 100% containment inspection implemented at the supplier's location in addition to other existing inspection activities. The additional 100% inspection may be conducted internally by the supplier or externally by a third-party inspection agency. Shipments of conforming materials to Tenneco shall be identified (marked / labelled) using methods agreed with the Tenneco receiving site. The supplier shall provide, and obtain Tenneco approval of, any inspection equipment necessary and shall ensure the competency of people performing the inspection.
- **Controlled Shipping Level 2:** 200% containment inspection. In addition to CS-1 above, CS-2 requires an additional 100% inspection to be conducted by an independent third-party inspection agency, agreed by Tenneco. Suppliers failing to meet CS-2 requirements or timelines may be subject to the Tenneco Revocation Process (see [section 5.33.1](#)) and/or placed on New Business Hold.

In parallel to the 100% CS-1 and CS-2 containment, the activities described in section 5.32 above shall also be applied.

Controlled Shipping protocols shall remain in place until the effectiveness of applied corrective action has been verified by Tenneco Supplier Development. It is the supplier's responsibility to formally request exit from Controlled Shipping when all exit criteria have been met.

Controlled Shipping Level 1 may be elevated to Controlled Shipping Level 2 if the additional internal inspection being conducted by the supplier proves ineffective in protecting Tenneco from receipt of nonconforming material. Suppliers shall maintain, and share with Tenneco, when requested, results of the 100% inspection activity in a format agreed by Tenneco.

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Note¹ – Materials with passthrough or special characteristics may automatically result in Controlled Shipping Level 2 being applied, depending on criticality.

Note² – Nonconforming or suspect materials in-transit, at Tenneco premises and at Tenneco customer premises shall also be included in the supplier's containment plan.

Note³ – Additional costs related to CS-1 and CS-2 inspection shall be paid by the supplier.

5.33.1 Revocation Process

Suppliers who do not adequately respond to the Controlled Shipping requirements or fail to achieve agreed exit criteria may be removed from the Tenneco Approved Suppliers List.

5.34 OE Customer Directed Supplier Mediation

Customer Directed Suppliers are required to follow the criteria established in this manual. If a Customer Directed Supplier is a chronically poor performer, Tenneco may establish a mediation process involving the customer through Tenneco Customer Sales. This is intended to resolve issues through Tenneco customer involvement in Tenneco's Supplier Improvement Process. Customer Directed Suppliers are required to participate in the mediation process and Tenneco will keep the OE Customer informed of progress.

5.35 Cost Recovery

Charges incurred by Tenneco related to supplier quality or delivery issues may be debited to the supplier upon input into the Tenneco quality and accounting systems.

Charges associated with nonconforming products and/or delivery issues may include, but not limited to, the following:

- Material rejection form charges – costs associated with the creation of the SCAR when non-conforming material or a delivery issue where charge back is identified.
- Incidental charges associated with the non-conformance, such as sorting, rework, WIP, finished goods, recalls, customer returns, visits to the supplier, and investigation resources.

Settlement of extraordinary costs shall be addressed on a case-by-case basis. Such charges may include, but not limited to, the charges listed in [Appendix-3](#).

Note¹ – Rejections of product from Customer Directed Suppliers may require charges in alignment with Customer policies which may be different from those of Tenneco extraordinary costs such as Tenneco incurred premium freight to expedite shipments, the economic impact to Tenneco customer or costs associated with rebuilds, special runs, etc.

Note² – Additional costs for Tenneco assembly / production line downtime to cover unabsorbed overhead or capacity loss will be calculated on a case-by-case basis.

Note³ – Process providers (platers, heat-treaters, etc.) will be charged costs associated with non-conforming material.

5.36 Supplier Quality Management System Assessment

Based on identified levels of risk, Tenneco retains the right to perform Supplier Quality Audits regardless of the supplier's certification status and performance scorecard results. Tenneco also reserves the right to have Tenneco's customer participate in the audit on the supplier's premises. Frequency of supplier visits shall be dependent on the inherent risk of supplied materials or services and risk deriving from ongoing supplier performance.

Tenneco will use the Tenneco Supplier Assessment, and other tools as appropriate, when performing a Quality Management System Assessment on new or existing suppliers of direct materials and services. Other requirements of Tenneco customers shall be followed whenever relevant to specific part numbers or programs, for example: GM-BIQ, VW-VDA 6.3, etc.

Tenneco documents to support supplier Quality Management System assessment are available for download on the [Supplier Monitoring Application](#) or may be requested from the Tenneco Buyer.

5.37 Record Retention

Unless otherwise specified, suppliers shall retain the below listed documentation relating to the purchased item for minimum of 15 years from end of business:

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- Purchase Orders,
- Tenneco Drawings / Prints / Specifications,
- PPAP level 3 Documents,
- Production Data / Product Quality Records,
- Warranty and Zero Miles Claim information, investigation, and corrective action.

Note: This period is a minimum and may be extended for specific programs depending on CSR's (e.g., PSW, Control Plan, SPC, PFMEA etc.) as requested by Tenneco or as specified on purchasing documents (e.g., RFQ, PPAP waiver).

5.38 Competence

The supplier shall comply with the requirements of clauses 7.2 of ISO 9001 and/or 7.2.1, 7.2.2, 7.2.3 and 7.2.4 of IATF 16949.

5.39 Field Issues (Also refer to section 5.31 – Corrective Action)

If either Tenneco or the supplier identifies an actual or potential design, or other defects, in the product that have caused or may cause a field failure, the supplier or Tenneco will immediately notify each other and supplier will cooperate with Tenneco, its customer or any governmental or regulatory authority, as applicable, to:

- Contain the defect and risk,
- Determine root-cause(s),
- Develop and validate a corrective action plan,
- Implement identified corrective / preventive actions, as applicable,
- Update Risk Assessment tools, such as DFMEA / PFMEA, accordingly.

Costs associated with such actions shall be allocated based on relative proportional responsibility determined at Tenneco's discretion. Tenneco may debit the supplier for incurred cost of remediation of failure or potential failure, if Tenneco made a 'good faith' determination, taking into account relevant information and data available at the time, that the supplier is likely to be liable for the total costs of the field action, and no agreement has been reached on the allocation of costs within 90 days after notice of the defect.

Such costs may include, but not limited to, replacement parts, related labor expenses, additional transportation, disposal costs, fines and fees, customer claims, internal staff and management time and outside counsel fees. Neither Tenneco nor supplier will be deemed to have admitted that the amount of any debit taken pursuant to this section is the amount for which Tenneco or supplier may be liable with respect to the field issue. Additionally, neither party will be deemed to have waived any right it may have against the other party relating to the alleged defect.

Tenneco or the supplier, as appropriate, will inform the other about any nonconformity of the goods as soon as reasonably practicable after it has been discovered and confirm the nonconformity in a Written Notice if requested by the other. Tenneco and the supplier will cooperate fully with each other to identify the cause of the nonconformity and to develop a plan for its prompt remediation.

5.40 Embedded Software Service Providers – (Also refer to section 4.4)

Suppliers of parts that include embedded software, or suppliers who develop software for embedding into Tenneco parts, shall meet all requirements detailed in clauses 8.3.2.3, 8.3.3.1, 8.3.4.2, 8.3.6.1, 8.4.2.3.1 and 10.2.6 of IATF 16949, and shall meet any other requirements identified by Tenneco or Tenneco's customers, such as Automotive SPICE – ISO 15504, etc.

5.41 Traceability

Suppliers shall ensure that production lot / batch numbers are clearly traceable back to individual materials, products, and production runs. If the labelling of individual parts is not possible, lot / batch number shall be permanently marked on packaging, labels, or tags. Different part numbers / material types shall be delivered in separate containers with only one lot / batch number per individual container. Shipments may comprise of several lot / batch numbers provided that each lot / batch number is separately packed, demarcated and clearly identified on packaging and delivery paperwork. Individual Tenneco Business Unit supplemental specific requirements may apply and, if so, suppliers shall comply with these additional requirements.

For Aftermarket shipments, single pallets may contain multiple part numbers, with the prior agreement of the Tenneco Buyer.

Suppliers shall maintain a system that enables full traceability of products supplied to Tenneco using the lot / batch number. This traceability shall include, but not be limited to, goods receiving raw material inspection / test records, first part set-up records, in-process inspection records, process parameter settings, sorting records, rework and repair records, and final inspection and release records. In

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case of actual or suspected nonconformance, records shall identify clear start and stop points. Traceability records shall be retained for a minimum of 15 years.

6 Tooling and Equipment

6.1 Tenneco Owned Tooling Located on Supplier Premises (Tenneco Property)

Tenneco owned tooling located at the supplier's premises, for the purposes of manufacturing or inspection of product or materials, shall:

- Be registered and clearly and permanently identified as the property of Tenneco, or if applicable Tenneco customer,
- Be permanently identified with the tool number and the part number(s) produced or inspected by the tool,
- Be regularly monitored and maintained as per agreement with the Tenneco Buyer and appropriate records kept,
- Be stored and transported in a way that preserves tooling condition and facilitates ease of tooling retrieval,
- Monitor and maintain records of the number of pieces produced from the tool, including pieces scrapped,
- Provide annual (or periodic, at a frequency agreed with the Tenneco Buyer) tooling inspection reports to the receiving Tenneco site(s),
- Not be altered or modified in any way without prior written consent from the Tenneco Buyer (see [section 6.2](#)),
- Not be used for manufacturing or inspection of product or materials for any customer other than Tenneco, unless formally agreed, in writing, with the Tenneco Buyer.

The supplier shall advise the Tenneco Buyer of quoted tooling costs for purchase authorization before any tooling order is placed by the supplier and provide a copy of the tooling supplier's invoice before Tenneco payment is authorized. Differences between quoted and actual tooling costs will not be paid by Tenneco unless agreed, in writing, prior to submission of supplier's tooling invoice. Additional evidence, such as photographs may also be requested. Tenneco shall only pay for tooling that is dedicated to producing Tenneco parts and may request the supplier to submit a declaration of exclusivity of tooling use with the invoice. Tenneco shall not pay for tooling to produce sample parts unless specifically agreed in advance in writing.

The supplier shall track tooling amortization costs against agreed production volumes and shall notify the Tenneco Buyer and the receiving site(s) once the end of the amortization period is reached. Where the supplier has been responsible for tooling sourcing and manufacture, at Tenneco cost, the supplier shall remain financially responsible when the actual tooling life does not meet, or exceed, the agreed / expected life of the tool. Likewise, unless specifically agreed, Tenneco will not reimburse suppliers for non-authorized nonrecurring engineering (NRE) costs.

Tenneco property shall never be considered a supplier asset and shall not be listed in the supplier's asset register and shall be held by suppliers pursuant to the [GTCs](#) of purchase, for such period as required to satisfy the supplier's obligations, including service parts requirements. In cases of supplier insolvency, Tenneco property shall be returned to Tenneco without delay. The supplier may not move Tenneco property to alternate locations without Tenneco's advance written approval. Tenneco reserves the right to demand surrender or destruction of any Tenneco property at any time, and the supplier shall immediately comply with Tenneco instructions.

Tenneco reserves the right to conduct audits of Tenneco property at suppliers' premises.

Note – Suppliers with questions regarding End User Customer Specific (Ford, GM, Chrysler, VW, JLR etc.) tooling identification requirements should contact the Tenneco Buyer.

6.2 Changes to / Maintenance of Tenneco Owned Tooling

Tooling shall be maintained in satisfactory working condition, capable of production that meets all applicable drawing and specification requirements, and at the capitalized planned volumes / rates. Suppliers shall not change or modify Tenneco owned tooling without advance notification and written approval for such changes. Tooling shall be fully insured against damage, loss, or theft and free from all liens and encumbrances at all times without expense to Tenneco.

6.3 Payment / Terms / Conditions to Tenneco Owned Tooling

Ownership of Tenneco tooling is granted to Tenneco. Payment for tooling will not be authorized unless a [Vendor Tooling Registration Form](#) is completed and returned to the Tenneco Buyer.

When requested, suppliers shall furnish complete photographs, tooling drawings and material specifications, including all details, inserts, consumables, etc., to Tenneco as part of the PPAP approval. Payment Terms are as indicated on the order. Payable date will

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be based on the date of receipt of the goods, not on invoice date. See [Section 5.23](#) for PPAP required Tooling Purchase Order signed by the supplier.

Note – Written notification to the Tenneco plant is required to initiate receipt date.

Supplier invoices for tooling must show exact physical location by City, State or Province, and Country where tools will be used in production. Payment terms are as indicated in the applicable purchasing documents.

7 Logistics and Trade Compliance

7.1 Advanced Shipping Notification

Tenneco offers traditional EDI and Tenneco's web-based supplier collaboration tool as options for the communication of requirements, forecasts, and releases, as well as ASN submittal.

Suppliers are responsible for submitting Advanced Shipping Notice (ASN) back to the Tenneco facility.

Tenneco requires ASN submittal at the time of shipment:

- An ASN is required for EVERY shipment to Tenneco,
- Only include items from one purchasing document per ASN (scheduling agreement and purchase order parts cannot be supplied on the same ASN),
- PPAP sample parts should be submitted on their own ASN (unless the Tenneco location agrees otherwise example: the part number is not fully released in the ERP system (SAP / QAD, etc.)),
- Failure to submit a valid ASN could result in a past due shipment and potentially affect the supplier delivery score.
- ASN numbers must be the same as the Bill of Lading and limited to 10 alpha-numeric characters.

7.2 Transportation Management Systems (TMS)

Tenneco utilizes Transportation Management Systems across many of our Business Units throughout several geographical regions. In each instance, the supplier will be provided instructions regarding TMS usage and login credentials. Tenneco suppliers play a critical role in this process; in each case the supplier should consult the [TMS user guide](#) on how to utilize the system; however, the supplier at minimum is expected to execute the following responsibilities when using TMS:

- Create/submit/modify/cancel transport order in TMS in line with Tenneco demand (date and volume ordered on latest release or purchase orders),
- Change loading/unloading dates,
- Add ASN/Delivery Note to transport order in TMS or enter Transport Order No. (TMS ID) in SNC ASN,
- Register any carrier non-conformities (Wrong truck/trailer type, missing required equipment, technical problems, etc.),
- Report to Tenneco TMS Admin directly or via plant regular contact any system/User-Input issues (performance/response time/login problems/data quality, etc.).

7.3 Packaging Requirements (for Motorparts specific packaging for finished goods requirements also refer to CORP-00090 – Global Distribution Centre Shipping, on the [Tenneco Supplier Portal](#))

Parts and materials shall be delivered in agreed packaging which shall not be changed without prior approval from the Tenneco receiving location. Parts and materials shall be free of contamination and foreign objects, of any kind, and packaging shall be free of contamination.

7.3.1 ISPM-15 Wood Packaging Materials

Tenneco requires suppliers that ship internationally to use wood pallets following ISPM-15 guidelines set forth by the IPPC.

ISPM-15 is applicable to wood; wood packaging materials such as dunnage, crates, reels, collars, and pallets; and other wooden items such as bracing. Products that are exempt from the standard include alternative materials such as plastic, paper, metal, and engineered wood products such as plywood, hardboard, and oriented strand board. Also note that shipments occurring within a country are exempt from ISPM-15.

All wood pallets must be heat treated following the ISPM-15 standards. After the wood is treated, it shall be stamped or

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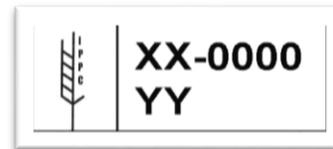
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branded with the internationally recognized IPPC mark. The treatment method used and country of origin of WPM is also indicated by the mark:



7.3.2 Expendable and Returnable Packaging

Tenneco uses a wide range of returnable packaging, and each division has its own specific packaging manual, or list of preferred shipping containers. The selection of containers is made during the APQP process and, to support Tenneco's sustainability vision returnable packaging is the preferred choice.

To control returnable packaging, Tenneco expects the supplier to keep accurate records of containers and comply with all requirements concerning: Booking or ordering process, stocktaking requirements, and rules around cleanliness and damage according to Tenneco divisional requirements.

If returnable packaging is not the optimum choice, the following directions should be adhered to:

Expendable pallets should be packaged in level layers and no 'pyramid' stacks should be used. If pallets with individual boxes weigh more than 1,500 lbs. (680 Kg) in total once packed, the supplier should use corner posts to support box shifting and maintain packed integrity.

Pallets should always be designed to stack inside of standard trailer or sea container. Suppliers should not be using pallets over 50" (1.27m) in height unless pre-approved by an individual plant or purchasing team.

All corrugated containers must have box maker's certificate printed on a visible surface when container is closed.

Where packaging is not planned to be reused, the structure of individual packaging compounds / components shall be such that separation for individual recycling shall be easy (manual) and simple without tools.

Full details of Motorparts packaging requirements are available from the [Tenneco Suppliers](#) website.

7.4 Verified Gross Mass (VGM) / Safety of Life at Sea (SOLAS)

Since July 1st, 2016, SOLAS (Safety of Life at Sea) regulation has been in place. This requires shippers to verify the gross mass of a container carrying cargo. Shipper is responsible for obtaining the VGM (Verified Gross Mass) weight of the packed container and for providing it to forwarders, sea carriers and terminal operators. There are 2 methods to obtain VGM:

Method 1: The shipper can weigh the packed and sealed container using calibrated and certified equipment.

Method 2: The shipper can add the weight of each package in the container, the packing and securing material and the tare weight of the utilized container. The method itself needs to be certified and approved by a national regulatory body. An estimation of the weight is not permitted.

7.5 Trade Compliance, Customs and Supply Chain Security

Basic Bill of Lading Requirements

The bill of lading must be included with each shipment and reference:

- Ship date
- Unique BOL #
- Freight terms
- Incoterms
- Consignee reference
- NMFC # class if applicable (ex. US OTR trucking)
- Special Instructions (call for appointment, do not stack, lift gate required, etc.)
- Carrier tracking # / Pro #
- Container / trailer #
- Seal #

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- HAZMAT (Y/N)
- Bill to address (freight billing)
- Ship to address
- Ship from address
- Weight
- Freight pieces
- Description of product
- Any others required by local authorities

Basic Commercial Invoice Requirements

Each time a supplier exports to a Tenneco affiliate, a legible commercial invoice, or a Customs/Proforma Invoice for free of charge deliveries must be provided in a timely manner and include:

- Invoice / ASN number (consecutive numbering for unambiguous assignment),
- Invoice Date / date of shipment,
- Name, address, and TAX ID number of Supplier (with contact details), Shipped From location (if different from the Supplier), Consignee, ship-to location (if different from the Consignee with contact details), Buying entity (if different from the Consignee), Notify / Customs Broker if applicable,
- Tenneco part number and detailed description including the commercial name by which it is known, its grade or quality (NOTE: 'Automotive Parts' is not an acceptable description),
- Each shipped material number must be shown in a separate line with quantity,
- Customs Tariff number,
- Piece quantity shipped and the unit of measure (10 pieces / 3 barrels etc.),
- Net weight per part,
- Total Net weight and Total Gross weight of shipment,
- Purchase Order #,
- Country of origin / manufacture by part,
- Invoice declaration / Statement on origin, if applicable,
- Unit price by part per PO,
- Extended value of units' times quantity-total value by part,
- Type of Currency,
- Total Invoice amount,
- International Freight amount except for EXW or FCA Incoterms,
- Shipping / Incoterms of sale and the named place and year, i.e., FCA 2020,
- Payment conditions / terms,
- Export Control Classification Number (ECCN), if known,
- Export license number, if applicable,
- Invoice page numbers (i.e., 1 of 3, 2 of 3, 3 of 3, etc.),
- Invoice shall be prepared in English (other languages in addition if requested),
- Conditional Fields:
 - Alloy surcharges if not in the piece price,
 - Tooling costs and engineering costs if applicable and not in the piece price,
 - Transport Insurance costs, if applicable,
 - Textile Suppliers - Manufacturer name if not the supplier.

Additional Supplier Requirements

- General Requirements:
 - Packing List shall have all information shown on the commercial invoice except for the value Including Gross and net weight of products; Total manifested quantity shipped; Dimensions of manifested pieces shipped; Total net and gross weight of the shipment; Packing list page numbers (i.e., 1 of 3, 2 of 3, 3 of 3, etc.)
 - The Transportation Document (BL, AWB, etc.) shall reference the commercial invoice,
 - Origin certificates / Special Program documents, if applicable, for support of preferential tariff treatment (unless already provided to Tenneco),

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- All shipping documents shall align with the invoice,
- EDI – Many of our brokers are capable of accepting EDI data. Suppliers interested in using EDI should contact Global Trade Compliance,
- Brand Registration – In case there is the end users' brand on a product, supplier shall make sure that they are registered as an authorized supplier for goods having this brand.
- Export Controls:
 - Suppliers shall comply with all applicable laws and regulations related to export controls and economic sanctions – including, but not limited to:
 - The U.S. Foreign Trade Regulations (FTR), the Export Administration Regulations (EAR) and any other U.S. or local government regulations that apply to export transactions, shipments, and operations,
 - The EU Dual-Use Regulation, the EU Common Military List and all EU and national export control and sanctions laws and regulations,
 - In all other countries, all the laws and regulations governing the export transactions, shipments, and operations conducted under the applicable export control regimes.
- Supply Chain Security Program Requirements:
 - Suppliers shall participate in, or meet the minimum-security requirements of, the US Customs Trade Partnership Against Terrorism (CTPAT), Authorized Economic Operator (AEO), or other security programs,
 - Suppliers shall accept responsibility for manufacturing facility and cargo security up to the point of delivering freight to the appointed carrier or forwarder,
 - All suppliers and partners shall understand and implement supply chain security procedures to secure shipments,
 - Information regarding the supplier's security procedures and/or certification status in available government sponsored programs is required upon request,
 - Suppliers shall complete Supply Chain Security Questionnaires on an annual basis upon request.
- Container Seal Requirements
 - Shipping containers (FCL) and full truck loads (FTL):
 - Seal must meet the ISO/PAS 17712 certification requirements
 - Seal must be affixed prior to shipment leaving facility
 - Seal number must be documented on the Bill of Lading
- Conditional Supplier Requirements:
 - Importer Security Filing (ISF):
 - Suppliers shall provide all required ISF information at least 72 hours prior to the scheduled vessel departure time (ETD) to the Freight Forwarder,
 - Lack of providing ISF information accurately and in a timely manner by the supplier and/or supplier forwarder may result in paying any costs associated with not following this established protocol.
 - Steel & Aluminum Suppliers:
 - Steel suppliers shall provide Mill Certificate requirements along with country of melt and pour,
 - Aluminum suppliers shall provide country of smelt and cast,
 - Prepaid Incoterms,
 - Prepaid Incoterms shall include on the commercial invoice the line-item costs for those services that are prepaid according to the specific prepaid incoterm. Costs could include freight, insurance, transportation, and duty.

8 Conflict Minerals

Tenneco is committed to sourcing components and materials from companies that share our values around human rights, ethics, and environmental responsibility. Tenneco is required to perform annual due diligence on the sourcing of, and file annual reports on, the use of tantalum, tin, tungsten, and gold originating in the Democratic Republic of the Congo (DRC), certain adjoining countries and Conflict Areas and High-Risk areas (CAHRA). This is necessary if the conflict minerals are necessary to the functionality or production of a product. Suppliers must conduct similar due diligence on the sources and chains of custody and make their findings available to

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Tenneco. All suppliers to Tenneco, for all raw materials, component parts and finished goods, should establish a process to comply with the legislation and related rules and to manage customer requests regarding conflict minerals.

Suppliers will cooperate with Tenneco and submit information as requested. At its own cost, Supplier will subscribe to the database used by Tenneco or provide its information on the RMI Conflict Minerals Reporting Template <http://www.responsiblemineralsinitiative.org/conflict-minerals-reporting-template/>. From time to time, Suppliers shall cooperate with Tenneco and submit information on additional materials that may fall outside of the Conflict Minerals regulations. To facilitate timely reporting by Tenneco, supplier data will be required annually based on the timeline set by Tenneco. Questions regarding conflict minerals should be directed to conflictminerals@tenneco.com.

9 Regulatory Product Compliance

Any product (substance, preparation, article or other) that is manufactured in or imported into the [EU 27 countries](#) must follow applicable requirements under any regulation / legislation.

Note – EU 27 applies REACH, United Kingdom has the UK REACH regulation.

Main legislations in scope (non-limitative):

- REACH – Registration, Evaluation, Authorization and Restriction of Chemicals,
- RoHS – Restriction of Hazardous Substances,
- ELV – End of Life of Vehicles – Recyclability,
- CLP – Classification, labeling and packaging of chemical substances and mixtures,
- GHS – Globally Harmonized System,
- SCIP – Substances of Concern In articles as such or in complex objects (Products) - *Waste Framework Directive (WFD)*.
- GADSL – Global Automotive Declarable Substances List

Note – As legislations and obligations constantly evolve, compliance with any and most recent versions is implied for each delivery of goods.

Where goods may be put on markets outside EU (either by buyer or by buyer's customers), additional obligations may apply for which compliance shall be arranged for by supplier.

Examples of non-EU legislation (non-limitative):

- Proposition 65 (California),
- REACH China,
- CSCL – Chemical Substances Control Law (Japan),
- TSCA (United States Law),
- GADSL – Global Automotive Declarable Substances List,
- GHS – Globally Harmonized System,
- Other applicable standards in the region.

Note – As legislations and obligations constantly evolve and may be different over the markets and countries our company operates in, compliance with any and most recent versions of any legislation or regulation is implied for each delivery of goods for the intended market.

According to [Article 33](#), in all events and situations, supplier has the obligation to provide - with each delivery or on simple request - any and all information on constituents, content, concentration and packaging to allow buyer to verify or arrange compliance with applicable obligations. Additionally, any information such as Material Safety (MSDS) shall be automatically provided with labelling information with each shipment with yearly updates (pdf format) provided.

Where required, supplier shall arrange for data upload on established portals at no cost for buyer.

Evolutions in legislation, modifying the list of substances in scope or obligations associated with compliance with any and each of these regulations, shall be deemed covered and anticipated by supplier at all times.

Tenneco requires suppliers to notify Tenneco, within the shortest possible time, when:

- Any changes occur to the registration or authorizations of substances affecting products supplied to buyer,

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- Supplier intends to discontinue using any substance or preparation affecting buyer's products,
- Supplier has failed to comply with any condition preventing (continued) use of any substance affecting buyer's products.

10 Restricted and Declarable Substances

Tenneco requires that our suppliers share our commitment to environmental and product safety. All suppliers shall ensure they follow all global regulatory product compliance requirements. In addition to minimum regulatory product compliance, Tenneco reserves the right to restrict certain chemicals in our products. Suppliers shall ensure that they follow Tenneco's chemical compliance related to our Black (Restricted) and Grey (Limited/Declared) Lists.

Instructions on Restricted Substances and the current [Black and Grey Lists](#) is available on the [Tenneco Supplier Portal](#).

Evidence of Compliance

Suppliers are required to demonstrate evidence of compliance with the Tenneco [Black and Grey Lists](#), OEM customer restricted substance requirements and global environmental laws and regulations by completing and returning to the Tenneco Buyer a copy of the [Restricted Substances Certification Form](#).

MDS for Components

All suppliers supplying direct parts / materials to Tenneco for OEM shall register at the IMDS website <http://www.mdssystem.com> and submit MDSs to related Tenneco Company ID. If IMDS / CAMDS data has previously submitted to Tenneco, resubmission is still required as Tenneco may use the product for another application delivered to another IMDS / CAMDS member customer. See [Appendix-2](#) for relevant Tenneco company ID numbers. If you have concerns regarding MDS data, please contact your Tenneco Buyer.

MDS shall be created within IMDS in accordance with TRDSL and related IMDS Recommendations.

Note¹ - The IMDS does not contain the rules of the Tenneco Black and Grey List. The IMDS / CAMDS will not show if your product complies with Black and Grey List. It is the supplier's responsibility to understand the rules of the [Black and Grey Lists](#) and create the MDS correctly within IMDS.

Note² - Suppliers supplying Aftermarket products to Tenneco shall provide Material Safety Data Sheets as part of the PPAP package.

Note³ - The requirements in this section are dynamic and subject to change with or without notice, therefore, it is incumbent upon the supplier to regularly check the [Black and Grey Lists](#) to identify applicable updates or changes.

SDS for Raw Materials

For all raw materials supplied to Tenneco, the Safety Data Sheet for the raw material shall include all substance declarations per the rules of the Black and Grey List. This will be in addition to all applicable rules for SDS authoring for the country supplied to.

11. Environmental Health & Safety

11.1 EH&S Commitment

As people are our most important asset, Tenneco's primary focus is to protect their health and safety. Tenneco expects suppliers to all Tenneco worldwide locations to conduct business in the same manner and that goods and services provided to these locations be delivered in a safe, ergonomic, and environmentally friendly manner.

Tenneco encourages its supply base to align with the [Environmental and Sustainability codes](#) available on the AIAG website and to demonstrate progress towards meeting the requirements of the current ISO 14001 and ISO 45001 standards.

11.2 Supplier Visits

Although suppliers are encouraged to visit Tenneco facilities, this does, however, require approval in advance from your Tenneco host. Visitors entering any Tenneco facility beyond the front offices, may be required to wear appropriate PPE, and may be required to sign documentation such as a visitor form or record.

Tenneco sites usually maintain a supply of essential PPE for visitor use but if you wish to bring your own, PPE requirements should be confirmed with your Tenneco host in advance of your visit.

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To protect their safety, visitors entering the plant must be always alert, obey all warning signs and plant visitor rules. Tenneco facilities and offices are smoke-free environments and smoking on-site is prohibited except in designated smoking areas.

11.3 Tenneco Facility Security

Tenneco's Mission is to protect company assets, both human and material, and to provide a safe and secure work environment for all employees and visitors. Tenneco maintains security systems that protect assets and prevent unlawful entry by unauthorized personnel.

Whilst on-site, visitors are required to sign-in and out, carry provided visitor identification and be always accompanied by their Tenneco host. Firearms, other offensive weapons, and alcohol are prohibited from all Tenneco premises.

Photography, of any kind, of Tenneco operations, facilities or personnel without authorization is strictly forbidden. Tenneco documents, printed, electronic or any other format, shall not be removed from the premises or copied without permission.

At some Tenneco facilities a security check may be performed on exit which may include a search of bags and/or vehicles. Visitors needing to remove Tenneco product or property from site must obtain a permission slip from their Tenneco host.

11.4 Supplier Data Security

Suppliers shall comply with all intellectual property requirements addressed in the Tenneco Global Terms and Conditions in Section 3.0. Suppliers are required to complete the Supplier Data Security Self-Assessment and upload it into the [Supplier Monitoring Application](#), or return to their Tenneco Buyer or Tenneco Supplier Development representative.

11.5 Intellectual Property Rights

If supplied goods infringe on any patents, trademarks, intellectual property rights, and/or contractual obligations (most OEMs prohibit suppliers from selling OE parts into the aftermarket), the supplier shall hold Tenneco harmless and compensate for all losses and damages.

11.6 Privacy

To respect individuals and their rights to privacy, Tenneco complies with all applicable privacy laws and regulations. Tenneco requires suppliers that collect, record, organize, structure, store, adapt, use, or disclose personal data to comply with specific privacy requirements. These requirements include the signing of a data processing agreement that regulates the scope and purpose of processing personal information, acknowledging Tenneco's privacy principles, and undergoing a privacy risk assessment based on the type of personal data processed.

12. **Cyber-Security**

As cyber-attacks become increasingly sophisticated, it is essential that we take the utmost care and diligence in protecting our information systems against unauthorized intrusion. To this end, Tenneco expects all suppliers to implement and maintain robust cyber-security measures to keep Tenneco and our customers secure, and to preserve stakeholders trust in information systems while maintaining the confidentiality, integrity, and availability of the company's information assets.

Tenneco has developed an 'Information Security and Privacy Threshold Assessment' (SPTA workbook), that is available for download from the [Tenneco Suppliers](#) website. Tenneco may use the SPTA to evaluate the resilience of supplier's information security measures against cyber-intrusion, and to assess how effectively suppliers maintain confidentiality, integrity, and availability of information. For certain types of suppliers, completion of the SPTA is mandatory when on-boarding new suppliers or changing cooperation with existing ones.

12.1 Software Security

Suppliers shall ensure that their software / applications are regularly updated to close any identified vulnerability gap. Where supplier software / applications connect with Tenneco information systems, or contain Tenneco confidential information, suppliers shall promptly inform their Tenneco Buyer of any identified vulnerability risk that cannot be reasonably remediated or of any impact due to a cyber-attack / event.

13. **Environmental, Social and Governance (ESG)**

Tenneco seeks suppliers who are committed to conducting business in an ethical and honest manner, and in a way that promotes corporate social responsibility and environmental sustainability. We seek suppliers that share our values: Integrity Always, Will-to-Win,

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One Team and Make Tomorrow Better. Tenneco holds suppliers responsible for identifying and complying with all applicable new and evolving legislation including supply chain human rights due diligence.

13.1 Supplier Code of Conduct

Suppliers shall comply with the Tenneco [Supplier Code of Conduct](#) and Tenneco expects that Suppliers cascade similar requirements through its own supply chain.

13.2 Ethics and Integrity

Tenneco requires its Suppliers uphold the highest standards of integrity and always operate honestly and equitably throughout their operations and business relationships. Tenneco believes that earning business fairly and in compliance with applicable legal requirements is essential to build trust with customers and other interested parties. We require our Suppliers to conduct their business in the same way. Tenneco's Ethics and Integrity requirements are outlined in the Tenneco [Supplier Code of Conduct](#).

13.3 Social Responsibility and Human Rights

Tenneco strongly believes that employees are a company's most important resource and the respect for human rights forms the basis of any successful business. Suppliers to Tenneco shall respect all internationally recognized human rights and treat all people with dignity. We expect our Suppliers to exercise human rights due diligence to identify, prevent, mitigate, and account for negative human rights impacts of their own operations and supply chain with a focus on where they have the highest risks of doing harm to people, and appropriate to company size and circumstances. Tenneco's Social Responsibility and Human Rights requirements are outlined in the Tenneco [Supplier Code of Conduct](#).

13.4 Environmental Sustainability

Tenneco expects its Suppliers to reduce their negative environmental impacts by protecting the environment, conserving natural resources, and continuously striving towards reducing the environmental footprint of their production, products and services throughout their entire lifecycle. The life cycle stages include acquisition of raw materials, design, production, transportation / delivery, use, end-of-life treatment, and final disposal. Suppliers are expected to handle environmental violations and complaints methodically and communicate them to affected employees and to external stakeholders, including Tenneco if relevant. Tenneco's Environmental Sustainability requirements are outlined in the Tenneco [Supplier Code of Conduct](#).

13.5 ESG Audits and Assessments

Supplier's compliance with Tenneco's ESG requirements outlined in the Tenneco [Supplier Code of Conduct](#) and this Supplier Requirements Manual is a key indicator in the Tenneco supplier qualification and assessment process. Suppliers must verify compliance with Tenneco's requirements by completing periodic questionnaires, as requested from time to time. Tenneco reserves the right to conduct ESG audits, by Tenneco or Tenneco nominated representative, upon reasonable notice.

Tenneco suppliers should explore the [AIAG Corporate Responsibility](#) website, complete the AIAG Supply Chain Sustainability eLearning and the 'Global Working Conditions (GWC) Self- Assessment', and send it to their Tenneco Buyer. Each direct material supplier should maintain a training program concerning Tenneco's commitment against forced labor, and our support for safe working conditions. Tenneco expects its suppliers to conduct internal audits and self-assessments as a condition of doing business with Tenneco and take appropriate and necessary action to address and resolve any issues identified. See our statement on [Preventing Human Slavery and Trafficking](#).

Appendix 1 – Definitions and Abbreviations

Abbreviation	Definition
AIAG	Automotive Industry Action Group
Aftermarket	The market for spare parts, accessories, and replacement components for motor vehicles
AM	Aftermarket (Tenneco Motorparts)
ASN	Advanced Shipping Note
APQP	Advanced Product Quality Planning, See AIAG APQP Core Tools Manual for further details
Balloon Drawing	A drawing where dimensions and requirements are sequentially numbered ☺
CAD	Computer Aided Design
CC/SC	Critical Characteristic / Significant Characteristic / Special Characteristic
Chemical Raw Materials	Group of raw materials to be used as direct materials (i.e., production materials)

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Abbreviation	Definition
CQI	Continuous Quality Improvements – AIAG Special Process Assessments
CMM	Coordinate Measuring Machine
Core Tools	AIAG Core Tools Manuals – APQP and Control Plan, FMEA, MSA, PPAP, SPC
CP	Control Plan
Cp, CpK	Measures of process capability, See AIAG SPC Core Tools Manual for further details
CSR	Corporate Social Responsibility
CSRs	Customer Specific Requirements
CS-I / CS-II	Controlled Shipping levels 1 and 2
DFMEA	Design Failure Mode and Effects Analysis
Distributor	Does not manufacture product, purchases from, or provides a service to, 3 rd party manufacturers
EDI	Electronic Data Interchange
ELV	End of Life Vehicles - https://www.gov.uk/guidance/elv
Gage R&R	(Variable/Attribute) – Repeatability & Reproducibility, See AIAG SPC Core Tools Manual for further details.
GTCs	Global Terms and Conditions
IATF	International Automotive Task Force
I-Chart	Inspection Chart
IMDS	International Material Data System (CAMDS is the Chinese version of IMDS)
IPC	Initial Process Control
ISO	International Organization for Standardization
LTA	Long-Term Agreement(s)
MAQMSR	Minimum Automotive Quality Management System Requirements (IATF)
Motorparts	A 'Business Unit' of Tenneco dealing mostly in the Aftermarket but with some OE business
MSA	Measurement System Analysis
MSC	Measurement system Correlations Studies
MSD	Material Safety Data (Synonymous with MSDS "Material Safety Data Sheet")
NPI	New Product Introduction
OE / OEM	Original Equipment / Original Equipment Manufacturer
OEE	Overall Equipment Effectiveness
PCA	Permanent Corrective Action
PCN	Process Change Note
PFMEA	Process Failure Mode Effects Analysis
Poka-Yoke	Mechanism that helps avoid mistakes or elimination and/or detection of errors
PPAP	Production Part Approval Process
PPM	Parts Per Million (Defective)
PSW	Part Submission Warrant
PTC	Pass Through Characteristic
Prop65	Proposition 65 - Chemicals known to cause cancer – List of Chemicals
QMS	Quality Management System
Raw Materials	Used in this Manual as a collective term for chemical raw materials and reinforcements
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals (the regulation (EC) No. 1907/2006)
RoHS	Restriction of Hazardous Substances
SCAR	Supplier Corrective Action Request
SCIP	Substances of Concern In articles as such or in complex objects (Products) – EU Waste Directive
SDS / MSDS	Safety Data Sheet / Material Safety Data Sheet
SIP	Supplier Improvement Process
SNC	Supply Network Collaboration
SPC	Statistical Process Control
Supplier	Provider of product or service to Tenneco
Supplier Quality Audit	An On-Site or virtual audit of the supplier by Tenneco to verify supplier's QMS effectiveness
Tenneco	Refers to all business units including – Clean Air, Motorparts, Performance Solutions, Powertrain & Ohlins
TITAN	Tenneco Interactive Tendering Alliance Network
TPO	Tooling Purchase Order
TSCA	The Toxic Substances Control Act of 1976 - U.S. Environmental Protection Agency (EPA)
VA/VE	Value Analysis / Value Engineering
VDA 6.3	German Automotive Industry standard for process- based audits of manufacturing processes

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Abbreviation	Definition
Warehouse (External)	Same company as manufacturing location but located in different region / state. No value-added activity.

Appendix 2 – Tenneco Business Group Specific Requirements

Clause	Description																	
4.3 5.3 5.6 5.24 5.25.1 5.29 5.31 5.38	<p>Submission in applicable Tenneco Supplier Monitoring Application per Tenneco Business Group:</p> <table border="1"> <tr> <td>Clean Air:</td> <td>TITAN</td> </tr> <tr> <td>Motorparts:</td> <td>Ivalua / TITAN</td> </tr> <tr> <td rowspan="5">Performance Solutions:</td> <td>AST:</td> <td>TITAN / IFS</td> </tr> <tr> <td>Braking:</td> <td>Ivalua</td> </tr> <tr> <td>NVH:</td> <td>TITAN</td> </tr> <tr> <td>Ride Control:</td> <td>TITAN</td> </tr> <tr> <td>Systems Protection:</td> <td>Zycus</td> </tr> <tr> <td>Powertrain:</td> <td>Zycus</td> </tr> </table>	Clean Air:	TITAN	Motorparts:	Ivalua / TITAN	Performance Solutions:	AST:	TITAN / IFS	Braking:	Ivalua	NVH:	TITAN	Ride Control:	TITAN	Systems Protection:	Zycus	Powertrain:	Zycus
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5.28	<p>Supplier Performance Requirements</p> <table border="1"> <tr> <td>Clean Air:</td> <td colspan="3">Clean Air supplier performance measures available from your Tenneco Buyer on request.</td> </tr> <tr> <td rowspan="3">Motorparts and Braking:</td> <td> <p>Warranty and Quality SCAR: Any time (<i>Excluding Informational SCARs</i>). Total points on the scorecard: 20 <u>Point Deduction:</u> High: 20 points deducted Medium: 8 points deducted Low: 5 points deducted</p> </td> <td> <p>Delivery and EHS SCAR: Any time Total points on the scorecard: 10 <u>Point Deduction:</u> High: 10 points deducted Medium: 6 points deducted Low: 3 points deducted</p> </td> <td> <p>SCAR Response Time: Actual for Scorecard Calculation Total points on scorecard: 3 <u>Point Deduction:</u> >24 hours to complete containment: 3 points deducted. >45 days to approval pending: 3 points deducted.</p> </td> </tr> <tr> <td> <p>SCAR Response Rejection: Any time Total points on the scorecard: 2 <u>Point Deduction:</u> 2 points deducted for each rejection. Could be multiple rejections for single SCAR.</p> </td> <td> <p>PPM: 6 months rolling for score calculation Total points on the scorecard: 2 <u>Point Deduction:</u> 0 to 25: No points deducted 26 to 1,000: 1 point deducted >1,000: 2 points deducted</p> </td> <td> <p>CPM (Complaints per Million): Any time Total points on the scorecard: 8 <u>Point Deduction:</u> 0: No points deducted 1 to 25: 2 points deducted 26 to 100: 4 points deducted 101 to 1,000: 6 points deducted >1,000: 8 points deducted</p> </td> </tr> <tr> <td> <p>Controlled Shipping: Actual for Scorecard Calculation Total points on scorecard: 40 <u>Point Deduction:</u> Controlled Shipping 1: 25 points Controlled Shipping 2: 40 points</p> </td> <td> <p>Delivery: 6 months rolling for score calculation Total points on the scorecard: 10 <u>Point Deduction:</u> 100%: No points deducted 97 to 100%: 3 points deducted >90 to 97%: 7 points deducted <90%: 10 points deducted</p> </td> <td> <p>Scoring Grade: 90 to 100 points: Preferred 75 to 89 points: Acceptable 65 to 75 points: Needs Improvement <65 points: Unacceptable</p> </td> </tr> </table>	Clean Air:	Clean Air supplier performance measures available from your Tenneco Buyer on request.			Motorparts and Braking:	<p>Warranty and Quality SCAR: Any time (<i>Excluding Informational SCARs</i>). Total points on the scorecard: 20 <u>Point Deduction:</u> High: 20 points deducted Medium: 8 points deducted Low: 5 points deducted</p>	<p>Delivery and EHS SCAR: Any time Total points on the scorecard: 10 <u>Point Deduction:</u> High: 10 points deducted Medium: 6 points deducted Low: 3 points deducted</p>	<p>SCAR Response Time: Actual for Scorecard Calculation Total points on scorecard: 3 <u>Point Deduction:</u> >24 hours to complete containment: 3 points deducted. >45 days to approval pending: 3 points deducted.</p>	<p>SCAR Response Rejection: Any time Total points on the scorecard: 2 <u>Point Deduction:</u> 2 points deducted for each rejection. Could be multiple rejections for single SCAR.</p>	<p>PPM: 6 months rolling for score calculation Total points on the scorecard: 2 <u>Point Deduction:</u> 0 to 25: No points deducted 26 to 1,000: 1 point deducted >1,000: 2 points deducted</p>	<p>CPM (Complaints per Million): Any time Total points on the scorecard: 8 <u>Point Deduction:</u> 0: No points deducted 1 to 25: 2 points deducted 26 to 100: 4 points deducted 101 to 1,000: 6 points deducted >1,000: 8 points deducted</p>	<p>Controlled Shipping: Actual for Scorecard Calculation Total points on scorecard: 40 <u>Point Deduction:</u> Controlled Shipping 1: 25 points Controlled Shipping 2: 40 points</p>	<p>Delivery: 6 months rolling for score calculation Total points on the scorecard: 10 <u>Point Deduction:</u> 100%: No points deducted 97 to 100%: 3 points deducted >90 to 97%: 7 points deducted <90%: 10 points deducted</p>	<p>Scoring Grade: 90 to 100 points: Preferred 75 to 89 points: Acceptable 65 to 75 points: Needs Improvement <65 points: Unacceptable</p>			
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Subject: Supplier Requirements Manual for Tenneco Enterprise

Business Unit: All

Function: All

Territory: Global

Procedure Number: E-SC-GL000

Effective Date: July 26, 2022

Owner: Vice President, Purchasing (R. Pack)

Clause	Description
	<p>Performance Solutions:</p> <p>SCAR: 3 months rolling for score calculation Total points on the scorecard: 40 <u>Point Deduction:</u> 0: No points deducted 1: 10 points deducted 2 to 3: 20 points deducted 4: 30 points deducted >4: 40 points deducted</p> <p>Controlled Shipping: Actual for Scorecard Calculation Total points on scorecard: 15 <u>Point Deduction:</u> CS-1: 10 points deducted CS-2: 15 points deducted</p>
	<p>SCAR Response Time: Actual for Scorecard Calculation Total points on scorecard: 15 <u>Point Deduction:</u> >24 hours to complete containment: 10 points deducted >21 days to approval pending: 5 points deducted</p> <p>Delivery: Actual for Scorecard Calculation Total points on scorecard: 25 <u>Point Deduction:</u> 100%: No points deducted 97 to 100%: 5 points deducted 90 to 96%: 10 points deducted <96%: 20 points deducted</p>
	<p>PPM: 3 months rolling for score calculation Total points on the scorecard: 5 <u>Point Deduction:</u> 0: No points deducted 1 to 25: 1 point deducted 26 to 50: 2 points deducted 51 to 75: 3 points deducted 76 to 100: 4 points deducted >100: 5 points deducted</p> <p>Scoring Grade: 90 to 100 points: Preferred 80 to 89 points: Acceptable 69 to 79 points: Developmental <69 points: Escalation</p>
Powertrain and Systems Protection:	<p>Quality: 40% (#SCARs 20% - PPM 20%) <u># of SCARs</u> (Weighting 20) 0 100 points 1 70 points 2 to 4 40 points 5+ 0 points</p> <p><u>PPM</u> (Weighting 20) 0 100 points 1 to 25 90 points 26 to 50 80 points 51 to 100 60 points 101 to 250 40 points 251 to 500 20 points >500 0 points</p>
	<p>Delivery (OTD): 30% (Weighting 30)</p>
	<p>Premium Freight: (Weighting 10%) (Weighting 10) 0 100 points >0 0 points</p>
	<p>Field Returns: 10% (Weighting 10) 0 100 points >0 0 points</p> <p>Customer Disruption Instances: 10% (Weighting 10) 0 100 points >0 0 points</p>
	<p>90 to 100: Preferred 70 to 89: Acceptable 0 to 69: Developmental</p>

SCAR Timing (All days are measured from SCAR initiation and are not to be added) (Tenneco monitoring days is measured from SCAR closure date)						
	Tenneco Business Unit	SCAR Systems	Containment	Corrective Action	Verification / Closure	
5.30 5.31	Clean Air:	eMRR	1 day	15 days	60 days	
	Motorparts:	Ivalua	1 day	15 days	45 days	
	Performance Solutions:	AST:	SCAR	1 day	-	21 days
		Braking:	Ivalua	1 day	15 days	45 days
		Ride Control:	SCAR	1 day	-	21 days
	NVH:	TITAN	1 day	15 days	21 days	

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	Systems Protection:	Zycus	1 day	15 days	45 days
	Powertrain:	Zycus	1 day	15 days	45 days

Tenneco IMDS / CAMDS Company ID Numbers					
Tenneco Business Unit		APAC	EMEA	India	North America
10	Clean Air:	222667	222668	222668	222669
	Shanghai Tenneco Exhaust:	CA_3_4704			
	Lingchuan (Chongqing) Exhaust:	CA_3_12977			
	Tenneco China:	CA_3_21014			
	(Dalian) Exhaust System:	CA_3_27281			
	Forsun (Tianjin) Auto Parts:	CA_3_76052			
	Chengdu Forsun Auto Parts:	CA_3_74893			
	Automotive Industry (Guangzhou):	CA_3_21636			
	(Suzhou) Emission System:	CA_3_88846			
	FAW Forsun (Changchun) Auto Parts:	CA_3_34343			
Performance Solutions:	AST: Öhlins Sweden, Taiwan and Thailand:	55861	55861		
	Braking:	2848	2848	2848	2848
	Ride Control:		4076		
	Tenneco Europe – Ride Control:			93420	
	Tenneco Automotive Private Ltd – Hosur:			209951	
	Tenneco Automotive Private Ltd – Chakan:			209950	
Tenneco Automotive Private Ltd – Pondicherry:					
Tenneco (Beijing) Ride Control Systems Co. Ltd:	46154				
DRiV Automotive Inc:				209686	
NVH: Tenneco Automotive Inc.:				209685	
Systems Protection:		463	463	463	463
Powertrain:					

Note¹ - Suppliers to Clean Air – MSD shall be submitted as soon as off-tool parts are available. MSD approval is required to be completed prior to PPAP and confirmation is to be uploaded into the TITAN PPAP C-Folder. The confirmation document shall clearly state Tenneco part numbers for which the data was entered, date of entry, and the ID node number should state that MDS has been accepted by Tenneco Clean Air.

Note² - Not applicable for Motorparts

Appendix-3 – Tenneco Business Group / Region Specific Supplier Chargeback Guidelines – (Also see section [5.35](#))

Cost Type	Minimum Charge					Description / Notes
	North America	South America	EMEA	APAC	India	
Administrative Fee.	\$300	\$300	€250	¥500	₹1500	Per incident.
Receiving Inspection Fee.	\$50	\$50	€50	¥100	₹150	Per shipment for the inspection of supplier product for re-certification or if certified process is interrupted due to non-conforming material (Minimum 1 hour charge) per hour.
Production Line Stoppage Fee.	\$50	\$50	€50	¥100	₹150	Per employee per hour directly affected.
Change Over Fee.	\$75	\$75	€75	¥150	₹200	Per employee per hour directly affected.

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Sorting Fee (Including material handling).	\$50	\$50	€50	元100	₹150	Per hour per employee directly affected. If supplier or supplier paid contractor does the sorting, (subject to plant Quality manager prior approval) fee may be waived.
Investigation Fee	\$75	\$75	€75	元150	₹200	Per employee per hour directly affected.
Re-PPAP Fee (Supplier fault).	\$1000	\$1000	€1000	元2000	₹4000	Per part number per submission.
Onsite visit (SIP, Major Quality/Delivery issue)	All costs incurred during support are subject to recovery. Per employee, actual cost will be calculated case by case.					

14. Revision History

This manual is a controlled document, and any changes will result in an update of the complete manual revision date and number. No changes or revisions to be made unless submitted by Tenneco.

Changes are listed most recent first.

Revision	Effective Date	Details
1	26-Jul-2022	First release of the Tenneco enterprise Supplier Requirements Manual.