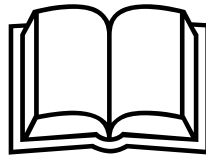


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# QUALITY MANAGEMENT DEPARTMENT



INTERNAL STANDARD

## STF.15.006 SUPPLIER INSPECTION REQUIREMENTS

SAPA TRANSMISSION INC.	Base on:	Written by:  Supply Chain Department	Reviewed and approved:  Ruben Gonzalez
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## 1. GENERAL INFORMATION

### 1.1 Abbreviations and acronyms used:

Dept.	:	Department
N / A	:	Not applicable
IS	:	Internal Standard
SAPA	:	SAPA TRANSMISSION INC.
PO	:	Purchase Order
NCMR	:	Non-Conforming Material Report
COTS	:	Commercial Off The Shelf item
C of C	:	Certificate of Conformance
C of A	:	Certificate of Authenticity

## 2. SCOPE

The scope of this document is to establish the requirements for suppliers / subcontractors' inspection systems. These requirements refer to the inspections and tests necessary to verify the product conformity with the drawings, specifications and tests required by the purchase order (PO).

## 3. APPLICABILITY

This internal standard shall be applied to all purchase orders made by SAPA Transmission when referred specifically to it in the PO.

Any deviations or exceptions to this procedure requires approval of Engineering, Procurement, or Quality at SAPA Transmission.

## 4. QUALITY REQUIREMENTS

### 4.1 RAW MATERIAL


SAPA will request all raw material suppliers to deliver a material certificate in which it shall describe the chemical composition, mechanical characteristics, material condition and Country of Origin. In case the material has special characteristics, SAPA will request the proper certificate in the PO.

### 4.2 MACHINING PARTS

#### 4.2.1 Raw material, Heat treatment and Coatings:

When the supplier is responsible for buying the raw material for processing, the supplier shall submit the material certificate which shall describe the chemical composition, mechanical characteristics, and material condition. If the material condition is not the one requested in the drawing, the supplier shall submit a certificate in which the heat treatment process performed, and mechanical properties obtained shall be described as conforming to design intent. All materials and subcomponents must be DFARS Compliant. All COTS items as part of the product (I.E Heli-Coils, Inserts, Bushings, ETC.) must have a C of C, or C of A, with Country of Origin listed, supplied with data submission.

For parts which have specific case hardness depth (Eht), nitriding hardness depth (nht), etc., the supplier

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shall submit a heat treatment certificate with microhardness test results to identify the layer thickness and the hardness requested. This test shall be performed in accordance with the specifications in the standards (ISO-2639-2002 and ISO 6507-1) for case hardness depth in carburizing heat treatments and (ISO 6336-5 2003, table 7, item 7, page 34) for nitriding) for nitriding hardness depth in gas and plasma nitriding processes.

For parts which have specific coating depth, (zinc, anodizing, etc.), the supplier shall submit a certificate attesting to the coating depth obtained. If the coating is hard anodizing, the certificate shall describe the hardness of the coating as well.

#### 4.2.2 Inspection records

All Inspection records must be supplied to [Quality@SAPATransmission.com](mailto:Quality@SAPATransmission.com) and Procurement Specialist prior to shipment for approval and authorization to ship.

The suppliers manufacturing parts for SAPA shall have a Quality Control (QC) department in which manufactured parts will be inspected and tested. The supplier shall maintain records of all inspections and tests. A copy of these records shall be submitted to SAPA in advance of shipment.

To ensure the quality of the parts, the inspection shall be carried out on a sample size (see below chart) in which the first and the last part of the order are reported, the remaining parts of the sample size will be randomly selected.

All the parts shall be marked with a Julian date sequential number (EX. 24128-0001 = 05/08/2024 SN# 0001), PO number, your WO, Part Number and Revision level, the records shall indicate the Julian number of the part to have proper traceability. If the components are too small or tolerance restricts the placement, then parts will be bagged or tagged with Julian number, PO number, your WO, Part Number and Revision level.

See 5. NONCONFORMING MATERIAL for further marking requirements.

A Road Mapped/Ballooned .pdf of the drawing must accompany all inspection results and match the inspection report characteristic item number.

All inspections must be performed on the finished component as applicable.

Report results in the same units as designed.

All deviations to design must be in **RED** as shown on inspection reports.

Inspection reports, ballooned prints, third party certifications and any other required data must be submitted and approved by SAPA Engineering, Procurement or Quality prior to shipment of product.

In the case SAPA requests components shipment prior to submission of records, then data must be supplied within three business days.

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Inspections requirements for parts included in the sample size:

- a. All dimensions with a tolerance at or below .015MM require 100% documentation regardless of sample size.
- b. Size dimensions with specific tolerance in the drawing. \*
- c. All geometric dimensions
- d. Surfaces with roughness less than Ra = 1.6 or Rt = 16
- e. Gears/Splines:
  - Inspection report with the designation specified
  - Tip diameter
  - Root diameter
  - Measurement over wires, with wire diameter listed.
  - Standard 4 tooth chart, with spacing, profile, and lead.
  - Topography on Bevel Gears.
  - Runouts and other features tied to the spline on design shall be recorded.
  - All items on Gear/Spline Data Sheet is considered a separate dimension and as such must be reported in sample quantity.

\*The first part of the sample size and only the first one shall have records of size dimensions with general tolerances. I.E. 1 piece 100% layout to include Gear/Spline Data Sheet and Print/Design.

\*\*If any of the parts has a dimension or roughness out of tolerance, this dimension / roughness shall be inspected in 100% of the parts of the work order.

\*\*\* SAPA Transmission’s approval of reports does not imply approval of any features not meeting drawing specifications.

Lot size	Sample size
0 - 5	All
6 – 25	5
26 – 50	8
51 – 90	13
91 – 150	20
151 – 280	32
281 – 500	50

#### 4.2.3 Special Inspections


For all parts which have undergone Carburizing Heat Treatment, Magnetic Particle Inspection will be performed and after any grinding operation Nital Etch Test shall be carried out to ensure there is neither cracks nor areas with overheating/burns that indicates less hardness on the surface. Results are expected for 100% of product.

The supplier shall submit a certificate of Magnetic Particle Inspection and Nital Etch Test with each lot.

#### 4.2.4 Visual Inspections

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When the machine parts have cross-drilled holes an inspection with an endoscope camera shall be carried out to ensure all intersecting holes have been deburred properly.

Before shipping, all the parts shall be inspected visually to ensure they are all free of burrs or oxidization, without damage and completely clean.

## 5. NONCONFORMING MATERIAL

In case non-conformity is identified prior to the shipment, the supplier shall send the inspections records to SAPA's Purchasing department for a determination of acceptability.

The supplier shall not ship the parts until a decision on non-conformity is made.

Any rework or modification of product after original submission mandates repeating all requirements of this procedure.

When the supplier is responsible for the non-conformity, the supplier may be responsible to provide a corrective action in case the non-conformity is not accepted by SAPA.

Supplier must mark NCMR number assigned to Non-Conformance on part with other specified parts markings.

SAPA will reinspect the material to ensure the conformance to purchase order requirements.

## 6. RESPONSIBILITIES

The supplier is responsible for complying with all requirements of the purchase order; therefore, the supplier will carry out the inspections and tests necessary throughout the manufacturing process to ensure compliance with the requirements.

The supplier is responsible for correctly applying this Standard.

SAPA's Purchasing department shall ensure the supplier receives this standard along with the drawings and other specifications necessary to comply with the requirements of the PO.

## 7. STANDARDS

Standard ISO 2859 - Sampling procedures for inspection by attributes

## 8. RECORDS

Inspection Reports  
Certificates

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9. ANNEXES

N.A.

10. REVISION HISTORY

Revision	Change	Author	Date of Change
A	First Edition	Ruben Gonzalez	01/17/2017
B	Second Edition	Ruben Gonzalez	10/31/2017
C	Updated Document Control note and added .015MM note	James Carlton	06/08/2023
D	Updated to SAPA US Standard	James Carlton	02/27/2024
E	Added marking and NCMR requirements. Added NCMR definition	James Carlton	03/12/2024
F	Added Julian Date SN and cleaned up some	James Carlton	05/07/2024
G	Added Gear/Spline Data, HT requirements for Nital Etch and Mag Part and cleared up. Added need to send data prior to shipment. Added DFARS, COTS, C of A, and C of C. Moved Rev Chart. Fixed pg. number	James Carlton	06/17/2024