

Supplier Manual

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1.0 Introduction

Our customers expect us to meet or exceed their expectations. In order to do so we need competitive, reliable, and innovative suppliers who are committed to our common goals.

The Supplier Manual defines expectations and requirements of ProtoPlast Inc. towards its suppliers, as well as practical instructions for implementation.

1.1 Policy

To ensure a reliable supply and improve competitive advantages in the entire supply chain through:

- continuous improvement of supplied goods and quality of service
- streamlining of supply costs
- efficient logistics
- supply risk management

1.2 Vision

From our suppliers we expect competitiveness, reliability, and partnership based on:

- planning, knowledge, competence and responsiveness
- excellence and reliability
- development, enhancement and competitiveness

1.3 Purpose

The purpose of this manual is:

- to present to suppliers the requirements and expectations of ProtoPlast Inc.
- to define mutual obligations and responsibilities
- to familiarize suppliers with the supply processes
- to ensure the right flow of information and efficient communication
- to successfully manage changes and introduction of new products
- to efficiently implement preventative and corrective measures

2.0 General conditions and provisions

2.1 Confidentiality

ProtoPlast Inc. considers all correspondence with suppliers as confidential. All documents originating and forwarded in a business relationship between ProtoPlast Inc. and the supplier are the property of ProtoPlast Inc. Such documents cannot be forwarded to third parties without ProtoPlast's approval. Confidentiality remains after the closing of a business relationship between ProtoPlast Inc. and the supplier. All requirements that ProtoPlast Inc. transfers to its suppliers must be transferred downwards to its sub-suppliers and other business partners.

2.2 Responsibility

The supplier is liable in a material and moral sense to meet all contractual duties and process implementations which are described in this manual. They are to ensure that the supplied products and services comply with ProtoPlast's requirements given in the relevant technical documentation and other formal requests.

ProtoPlast requires from all its suppliers:

- on time delivery
- product without non conformities

2.3 Legal requirements

The supplier is responsible for meeting the applicable legal requirements of the countries where they operate.

Supplier is obliged to provide the following:

- Safety data sheets (annually)
- Certificate of origin (annually)
- Material certificate of conformity / certificate of analyses (with each shipment)
- Conflict minerals / ROHS declarations (upon request)

2.4 General requirements

The following conditions must be met by all suppliers:

- records of technical documentation
- control over suppliers and incoming materials
- relevant and capable working tools and equipment

- measuring devices if they are necessary to ensure product quality; need to be regularly checked in a metrological sense
- control over quality in the production system and records on quality
- suitable labelling
- working environment which is suitable based on the conditions required by the product quality

2.5 Quality system

The suppliers' commitment to supply products in compliance with the quality requirements has to be ensured by a modern and efficient quality management system. The system should include the principle "zero nonconformity" in the development of, production, and all other processes. The emphasis should be on preventative methods.

ProtoPlast encourages all suppliers to establish, implement and certify a quality management system which meets the requirements of ISO 9001 or the recommended standard ISO/TS 16949.

If ProtoPlast or our customer requires a quality management system evaluation at the supplier, the suppliers must enable it. The same applies for sub-supplier evaluation.

2.6 Technical requirements

Suppliers are obliged to maintain and suitably store all received documentation. For this purpose records must be kept of the received documentation and of all changes.

Technical issues must be solved with the responsible party at ProtoPlast. The technical documentation given to the supplier can only be changed by a ProtoPlast representative.

2.7 Sub-suppliers

The requirements set by ProtoPlast to its suppliers must be transferred to their sub-suppliers. All manufacturers included in the production supply chain must use suitable quality management systems at their work, as this is the only way to ensure quality of the final product.

2.8 Special tools, devices, and equipment

Purchased special or standard tools and equipment are the property of ProtoPlast Inc. or ProtoPlast's customer and must be marked accordingly. ProtoPlast does not allow any changes to tools or equipment without approval by ProtoPlast. The supplier must suitably store, maintain, and insure tools or equipment. After finishing the contractual work, the supplier is obligated to return tools or equipment to ProtoPlast at our request.

3.0 Commercial requirements

3.1 Purpose

The purpose of the process of supply is to ensure a stable and efficient provision of material needs and services by competitive terms.

3.2 Selection of suppliers

The suppliers' abilities and capabilities of meeting ProtoPlast's requirements are the main factors in preliminary selection of a supplier. Suppliers are categorized based on their ability to meet:

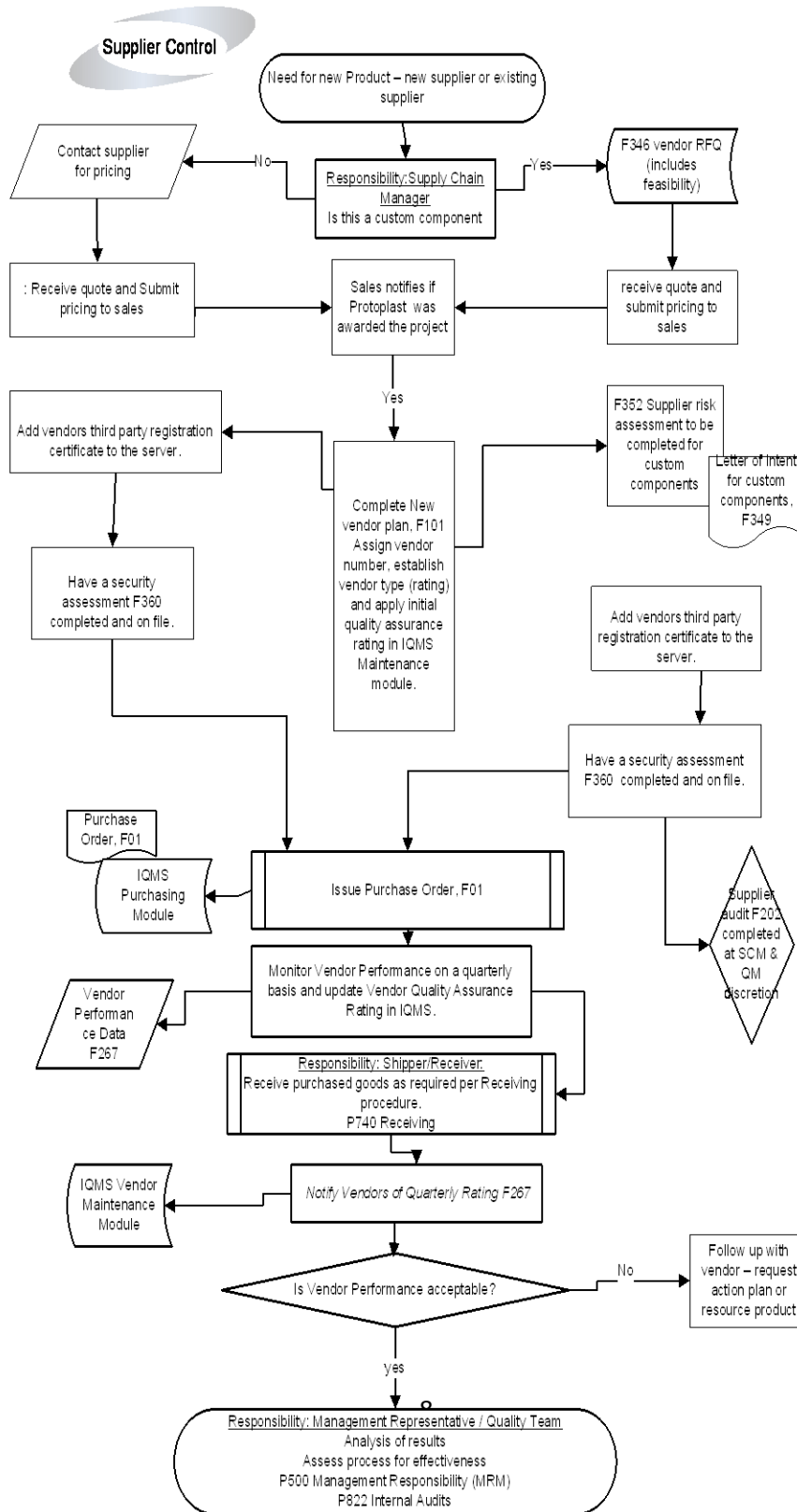
- quality (PPM, efficient claim solving)
- competitiveness (assurance of target prices, productivity)
- delivery (project time table, delivery dates)
- support in development, innovations, and communication

3.3 Demand and supply

In addition to the quality aspect, suppliers must also be price competitive.

ProtoPlast may send a formal Vendor RFQ which includes special requirements, feasibility sign off, and technical documentation for the enquiry. It is the supplier's responsibility to check all necessary technical, safety, and environmental data before issuing a quotation and to determine the feasibility. Every detail, requirement, dimension etc., which the bidder cannot ensure has to be indicated in the offer.

4.0 Selection and approval of suppliers



5.0 Evaluation and development of suppliers

5.1 Purpose

The purpose of evaluation and development of suppliers is to monitor and enhance suppliers to achieve excellence in operations and in meeting all Protoplast Inc. requirements. By evaluating deliveries we continuously control quality of the supplied goods and services for the needs of production. The collected data helps Protoplast make sourcing decisions and ensures that Protoplast and the supplier are both constantly informed about the level of service / quality of goods provided.

5.2 Evaluation

A commitment rating comprises 40% of the overall rating. The commitment rating is made up of 4 distinct criteria which tend to be more subjective in nature. The objective of these metrics is to highlight items which may not be visible through traditional data driven measures. Data-driven measurements represent 60% of the overall rating and include on time delivery, quality, and quantity. The commitment and performance ratings will roll into an Overall Vendor rating.

Commitment rating

Element Name	Description	Weight
Responsiveness	Response time for RFQs, PO confirmations, order actions returned phone calls, SNCRs	35
Price	Competitive pricing (evaluating increases/decreases/fuel surcharges as well as initial quoted price)	35
Technical capability	Knowledgeable staff, technical support available on / off site, assistance with processing issues, laboratory support available	15
Lead time	Supplier works to reduce lead time and minimize lead time changes	15

Performance rating

Element Name	Description	Weight
Delivery	100% on time delivery scored in days, values are absolute – delivery coming in a day early is treated the same as a delivery coming in a day late **includes CofCs	45
Quality	Defects scored by % - total defects vs. total parts received	45
Quantity	(+/-) scored by %	10

Delivery – Scored in Days		
From	To	Rate
0	0	100
1	1	80
2	2	50
3	4	25
5	+	0

Quality (Defects) Scored by %		
From	To	Rate
0	0	100
1	2	80
3	5	50
6	10	25
11	+	0

Quantity (+/-) Scored by %		
From	To	Rate
0	5	100
6	10	80
11	20	50
21	25	25
26	+	0

5.3 Supplier classification

Scorecards are completed quarterly for suppliers who are subject to rating.

Vendor classes for products and services

Type / Code -1 (raw materials)

Vendor Ratings:

RMV - Raw Materials Vendors – raw materials used in production (subject to rating in IQMS)

TEV – Tooling and Equipment Vendors – raw materials used in tooling (not subject to rating in IQMS)

Type / Code -2 (manufacturing supplies)

Vendor Ratings:

PMV - Packaging Materials Vendors – packaging used in production (subject to rating in IQMS)

SSV – Shop Supplies and Engineering Services Vendors – shop supplies used in either division (not subject to rating in IQMS)

Type / Code -3 (office related)

Vendor Ratings:

OSV – Office Supplies and Services Vendors – office supplies used in either division (not subject to rating in IQMS)



Type / Code -4 (equipment)

Vendor Ratings:

TEV – Tooling and Equipment Vendors - equipment (not subject to rating in IQMS)

Type / Code -5 (miscellaneous)

Vendor Ratings:

CTV – Calibration and Testing – calibration services (subject to rating in IQMS by Quality Department)

PSV – Production Services Vendors - transportation services (not subject to rating in IQMS)

SSV – Shop Supplies and Engineering Services Vendors - engineering services (not subject to rating in IQMS)

TEV – Tooling and Equipment Vendors - tooling services (not subject to rating in IQMS)

Type / Code -6 (subcontractors)

Vendor Ratings:

PSV – Production Services Vendors – production subcontractors (subject to rating in IQMS)

SSV – Shop Supplies and Engineering Services Vendors - subcontractors (not subject to rating in IQMS)

TEV – Tooling and Equipment Vendors- tooling subcontractors (not subject to rating in IQMS)



Vendor Analysis Scorecard Q2 2017

Section 1 - Vendor Commitment - weighted at 40% of overall rating

Definitions:		Evaluation:	
Responsiveness:	RFQs, PO Confirmations, Order Actions, Returned Phone Calls SNCRs - weighted at 35%	Responsiveness:	35.00
Price:	Competitive Pricing (evaluating Increases/Decreases/Fuel Surcharges) - weighted at 35%	Price:	35.00
Technical Capability:	Knowledgeable staff, technical support available, assistance with processing issues, laboratory support available - weighted at 15%	Technical Capability:	15.00
Lead Time:	Supplier works to reduce lead time and minimize changes (weighted at 15%)	Lead Time:	15.00
		Commitment Rating:	100.00

Section 2 - Vendor Performance - weighted at 60% of overall rating

Definitions:		Evaluation:	
On Time Delivery:	On time delivery (note values are absolute) - weighted at 45%	On Time Delivery:	45.00
Quality:	Total rejected items vs. Total # of Receipts - weighted at 45%	Quality:	45.00
Quantity:	Quantity ordered vs. Quantity Received - weighted at 10%	Quantity:	10.00
		Performance:	100.00

Overall Rating This quarter:	100
Previous Quarters	
	9/30/16 100
	12/31/16 100
	3/31/17 100
Average for the Past Year:	100

1-	>90%
2-	75% to 90%
3 -	< 75%

Approved	Meets or exceeds expectations
Conditional	Action plan to improve performance
Probationary	Future Business could be at risk

Protoplast classifies suppliers into three groups, 1, 2, 3 as follows:

Rating	%	Meaning	Definition
1	>90	Approved	Meets or Exceeds Expectations
2	75 to 90	Conditional	Action Plan to Improve Performance
3	<75	Probation	Future Business Could be at Risk

Supplier scores are maintained on our approved Vendor Directory Listing.

5.4 Risk assessment

Risk assessments may be requested at time of sourcing, before a new launch, or annually.

Assessments can include:

- Financial risks
 - financial situation (financial indicators, trends)
 - level of dependency (% of supplier's production for Protoplast)
 - stability, management (political, safety, social)
- Technological risks
 - quality system (implemented system, indicators, goals)
 - new products
 - new processes
- Delivery risks
 - capacities
 - sub-suppliers
 - production location

6.0 Specific requirements of Protoplast for the automotive industry

For supplied parts which are to be used in the automotive industry additional requirements may be required including:

- PPAP Submission (In case of sub-supplier require approved PSW)
- IMDS release
- FMEA
- Control Plan
- Key Characteristics

- APQP Planning
- ISO/TS/IATF 16949: 2016 Certification

6.1 Production Part Approval Process (PPAP)

Quality planning is essential for quality assurance, continuous improvement, prevention of nonconformities, and process optimization. PPAP is a process that enables the supplier to prevent risks and guarantee long term quality assurance.

Through a PPAP submission Protoplast can verify:

- that the supplier understands all the requirements
- has a process that is fit
- that first products, made under the conditions of serial production, comply with all set requirements

The required level of submission is a Level 3 unless otherwise agreed. Requirements of PPAP include:

- drawing (last valid issue)
- document changes
- approval of documentation from customer (if necessary)
- FMEA constructions
- process flow chart
- FMEA process
- dimensional measurements
- test results
- process abilities (key characteristics)
- Measurements System Analyses (MSA)
- documentation regarding suitability of laboratories
- control plan
- PPAP requirements form (PSW)
- Appearance Approval Report (AAR)
- control list bulk materials
- first samples
- reference sample
- measurement instruments (a list of necessary measurement instruments)
- records on conformity with special customer requirements
- material performance test results
- approved packaging sheet
- sub-supplier approved PSW

The supplier will be obliged to carry out all necessary processes and prepare suitable documents for the indicated items when applicable.

6.2 IMDS must be released at Protoplast's request for all materials used for automotive applications.

6.3 FMEA

The supplier must make a FMEA of the process (PFMEA) for all PPAP'd components. When preparing a FMEA the supplier must use principles and evaluation in compliance with the latest valid AIAG reports if not otherwise agreed to with Protoplast Inc.

6.4 Control plan

The latest valid version of AIAG instructions must be used as a basis for the development and maintenance of the control plan. Protoplast Inc. reserves the right to approve the supplier's control plan. The supplier must make control plans for all PPAP'd components. It is necessary to focus on prevention, rather than the detection of faults. Special attention has to be paid to finding the correct input control parameters.

6.5 Key characteristics

Key characteristics or product properties which are closely linked to safety aspects, legal regulations, and product quality are marked on supplied drawings. It is important that the supplier includes all key characteristics in its FMEA and Control Plan and makes sure that all suitable controls are carried out. Key characteristics require special treatment in the PPAP, implementation of the measuring system analyses, and statistical process control (SPC).

6.6 Advanced Quality Planning (APQP)

At Protoplast's request the supplier must make a project plan for new program launches or changes. This should include elements of advanced product quality planning (APQP), time plans, activity reviews, control points, target dates, and a list of responsible people. The plan's objective is to meet the quality requirements in respect to a product and to implement the project timeline.

6.7 ISO / TS Certification

ISO 9001 Certification (at a minimum) is required for all suppliers who provide product which will be used in the automotive industry unless otherwise agreed to by Protoplast Inc. or our customer.

6.8 Implementation of quality control

The supplier must control their working processes in respect to the given requirements to ensure the required quality. The supplier must make and maintain technological control and other necessary documentation for the production process. Similarly, the supplier is obliged to use statistical tools for process control by implementing appropriate corrective measures.

7.0 Change management

The supplier must inform Protoplast Inc. before any change is made to a product, process, or production location. Based on the notice and approval of suggested change by a Protoplast representative a new PPAP may be necessary. The supplier will provide Protoplast with information in the following cases:

- use of different construction or material
- production on new or changed tools, models, templates
- updating or rearrangement of existing production devices (improved capacities, CPK, change of a process flow chart)
- replacement of sub-supplier for parts or services which affect the product form or function
- change of testing methods
- change of products or internal processes internally, at suppliers or at sub suppliers which affects the form, stability or function of a product

Protoplast appreciates supplier suggestions for continuous improvements in order to improve quality reliability, and to reduce labour and product costs. Requests for changes are triggered by submitting a request to the purchasing division. After analyzing a suggestion Protoplast Inc. will inform the supplier about its decision. In the case of a rejection Protoplast Inc. will provide reasons for the rejection.

8.0 Nonconformities

All product received from a supplier must be in compliance with quality specifications. If nonconforming product is received supplier may be responsible for a \$500.00 administration fee as well as all other direct, consequential, and incidental damages incurred by Protoplast as a result of the nonconforming condition. The supplier shall promptly repair, replace, or otherwise satisfactorily deal with the non-conformance in a manner which is deemed acceptable by Protoplast Inc.

If a supplier discovers non conformity of a product during the production process or before shipment, they can ask for an opinion in respect to product acceptability.

8.1 Short term measures

In the case of rejections Protoplast requires the supplier to reply to the sender within 24 hrs of initial receipt of the concern with a written description of:

- suggestion for possible immediate actions to ensure undisturbed production (sorting, replacement stock, other measures)
- timeline for implementation of short term measures

8.2 Corrective measures

In cases of proven non-conformities Protoplast requires the submission of a formal corrective action. The purpose of the action plan is:

- for the supplier to determine root causes which led to the non-conformities
- to help the supplier plan for efficient short and long term measures to permanently eliminate the risk of the non-conformity from recurring
- to allow the supplier to evaluate the efficiency of the implemented measures
- to allow Protoplast the opportunity to evaluate the efficiency of implemented measures

In the event that Protoplast finds the planned measures insufficient they will require a new plan from the supplier.

9.0 Logistic requirements

9.1 Packaging

General principles which apply:

- packaging must comply with Protoplast's requirements and all valid international standards
- packaging must protect product against general impacts of storage and transportation
- each packaging unit has to be marked with labels
- the packaging shall not constitute a hazard for the workers
- delivery of full packaging units is recommended
- 46x48 pallets are preferred

9.2 Package labelling

Every packaging unit has to be labelled in compliance with Protoplast's requirements. The label has to indicate the following data:

- manufacturer's name
- description
- identification number of product

- quantity in units
- batch or lot number

All chemical products must show the data that is required by the Chemicals Act and by the Safety Data Sheet.

9.3 Transport

The supplier and ProtoPlast must come to an arrangement with regards to product transportation. In this, transportation requirements and product specific characteristics must be considered.

9.4 Orders

ProtoPlast will provide spot buy or blanket purchase orders for all components and materials. ProtoPlast has the right to deny or store products delivered before the agreed term at the expense of the supplier. In the case of failed deliveries (except in the case of force majeure) ProtoPlast has the right to request immediate delivery from the supplier for a full or partial delivery and charge them for the incurred costs. In case of force majeure ProtoPlast Inc. and the supplier must make special arrangements on new terms of delivery.

10.0 Price efficiency

To stay competitive ProtoPlast is continuously forced to reduce its product prices. Therefore ProtoPlast and its suppliers must use a carefully planned approach towards reduction of costs and consequently acquisition prices. ProtoPlast will reduce prices through long terms agreements with suppliers, benchmarking, and redirecting orders to less expensive suppliers. ProtoPlast believes that suppliers should develop a process of continuous cost reduction with an efficient implementation of programs for quality improvement, concurrent development, and value analysis techniques.

10.1 Productivity

ProtoPlast encourages suppliers to continuously implement operative improvements in their production capacities and to strive for the use of a lean production policy. In this way we will ensure an enduring and competitive business environment in the global market.