WORTHINGTON
ENTERPRISES

WORTHINGTON CYLINDERS GMBH
3291 KIENBERG BEI GAMING - AUSTRIA

Supplier Quality Manual

Rev. 03 (01.12.2023)

WORTHINGTON PHILOSOPHY

GOLDEN RULE

We treat our customers, employees, investors and suppliers as we would like to be treated.

SUPPLIERS

We cannot operate profitably without those who supply the quality materials we need.

We ask that suppliers be competitive in the marketplace with regard to quality, pricing, delivery and volume purchased.

We are a loyal customer to suppliers who meet our quality and service requirements through all market conditions.

SUPPLIER MISSION STATEMENT

To develop long term, strategic supplier relationships in order to continually improve raw-material quality and achieve annual reductions in raw material costs.

WORTHINGTON SUPPLIER CODE OF CONDUCT

Preamble

At Worthington Enterprises Sustainable Energy Solutions, we believe in treating our customers, employees, investors and suppliers as we would like to be treated.

Our philosophy towards suppliers is:

- We cannot operate profitably without those who supply the quality materials we need.
- We ask suppliers to be competitive in the marketplace with regard to quality, pricing, delivery and volume purchased.
- We are a loyal customer to suppliers who meet our quality and service requirements through all market conditions.

Witnessing climate change and its severe consequences for the environment and the society at large, change is necessary and urgent. All organizations have a stake in this at every level and must collaborate to have an influential impact. This Supplier Code of Conduct aims to engage our suppliers to work with us.

Our sustainability purpose is “to create a distinctive journey beyond our products for sustainable, competitive, and profitable solutions, impacting positively the environment and the society at large”.

We expect our suppliers

- To commit to and comply with the principles and values set out in this Supplier Code of Conduct.
- To conduct their business in accordance with the principles set out in this Supplier Code of Conduct, supported by management systems that control and monitor these principles.
- To ensure appropriate processes, resources, capabilities and policies to comply with this Supplier Code of Conduct.
- To document policies, processes, targets and performance and to provide these to Worthington Enterprises Sustainable Energy Solutions as necessary.
- To pass on the terms of this Supplier Code of Conduct to their supply-chain, striving for sustainable development.
- To comply with all applicable laws and regulations.

Suppliers must warrant transparency and accuracy towards Worthington Enterprises Sustainable Energy Solutions concerning the principles and requirements set out in this Supplier Code of Conduct.

For Products and Services outside the European Union and supplied to Worthington Enterprises Sustainable Energy Solutions, suppliers shall duly and timely report the necessary information set out in European Union legislation i.e., Carbon Border Tax Adjustment Mechanism Directive, Corporate Due Diligence Directive.

Suppliers are encouraged to disclose publicly their sustainable development impact, targets, engagement plans and progress.

Suppliers shall implement continuous improvement including relevant targets, implementation plans and incidents registry and corrective actions, decreasing performance or non-conformities from internal / external audits. This continuous improvement shall add Worthington Enterprises – Sustainable Energy Solutions 2/7 sustainability aspects, securing an appropriate approach to this Supplier Code of Conduct.

Worthington Enterprises Sustainable Energy Solutions may verify suppliers' and suppliers' upstream compliance with this Supplier Code of Conduct through surveys, audits and may engage third parties to do so. Suppliers and suppliers' upstream shall support and provide any necessary accurate and relevant evidence and documentation. In the event of any deviations from the terms of the Supplier Code of Conduct, suppliers ensure to take necessary corrective actions in a timely manner.

If Worthington Enterprises Sustainable Energy Solutions determines that any supplier has violated the Supplier Code of Conduct, Worthington Enterprises Sustainable Energy Solutions may, at its discretion, terminate the business relationship and/or require the supplier to implement corrective actions. If corrective actions are advised but not taken, Worthington Enterprises Sustainable Energy Solutions may terminate current orders and may suspend the placement of future orders.

Should Worthington Enterprises Sustainable Energy Solutions recognize persistent deviation from this Supplier Code of Conduct, Worthington Enterprises Sustainable Energy Solutions may suspend or terminate its engagement with the suppliers.

The complete Supplier Code of Conduct you will find at

https://www.worthingtonenterprises.eu/sustainability/reporting-and-governance/

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A. Introduction

This manual has been prepared to assist all current and potential suppliers of Worthington Cylinders GmbH (hereinafter referred to as Worthington) in developing, maintaining and continually improving a Quality System that meets Worthington's requirements. It is not Worthington's intent to dictate the type of Quality System a supplier should have. Suppliers shall develop a quality system that is the most effective and suitable to the individual manufacturing facility.

Worthington's continued success is built upon providing products and services that meet customer requirements and improve our competitiveness. Worthington's commitment to its customers is expressed in the company philosophy.

CUSTOMERS

"Without the customer and their need for our products and services we have nothing. We will exert every effort to see that the customer's quality and service requirements are met. Once a commitment is made to a customer, every effort is made to fulfill that obligation."

We expect the same from our suppliers.

B. Supplier Selection

The intent of this section is to provide a guideline to the process Worthington employs when sourcing new products and/or seeking alternate sources for current purchased materials and services. It is not a definitive operating procedure.

Supplier Selection Process

Purpose

To ensure supplier selection is accomplished in a consistent manner, while promoting a process that will guarantee the highest quality product at a fair market price.

Scope

Applies to all purchased materials and/or services used in the manufacture of Worthington products.

Selection

Supplier selection is based upon an evaluation that may include, but is not limited to, the following criteria.

a. Overall product quality

b. Technical capability
c. Manufacturing capacity / Ability to meet delivery requirements
d. Acceptable Quality System
e. Approved sample parts / Approved trial material (as required)
f. Performance history - (quality, delivery and/or service support)
g. Financial stability
h. Competitive price
i. Value added products/services

Suppliers are encouraged to contact the appropriate Worthington Purchasing personnel for information concerning potential opportunities. Data regarding product(s), manufacturing facilities, company history, available technical support, etc., along with a current annual report should be forwarded to the buyer. This information shall be retained on file and be reviewed for consideration when the Worthington Buyer determines a need.

Unsolicited bids are discouraged. Purchasing of Worthington Cylinders GmbH may solicit quotes verbally or in writing. Buyers may utilize a Request for Quotation (RFQ) or Request for Proposal (RFP). The complexity of the item, value of the pending award and various contractual elements shall determine the format and process. In all cases the following shall apply:

"Worthington Cylinders GmbH reserves the right to reject any and all offers, quotations, proposals, or bids with regard to quality, price, assurance of timely delivery, and all other factors that Worthington Cylinders GmbH, at its sole discretion, deems relevant; or to negotiate separately with any source, whatsoever, if such action is deemed necessary to serve the interest of Worthington Cylinders GmbH."

Worthington's purchasing personnel are the only representatives with the authority to contract with a supplier. It shall be the responsibility of the supplier to notify purchasing of any contact by non-purchasing employees requesting service that is excessive and for which remuneration is standard business practice. Under no circumstances shall a supplier introduce trial or sample product to the production floor, either directly or indirectly, without going through the Purchasing Department.

Once a supplier has been selected, each part should be approved through the "Purchased Parts Approval Process" prior to shipment of production parts.

C. Purchased Parts Approval Process

Purpose

To provide a formal review and approval process for purchased parts prior to use in production.

Scope

Newly purchased parts can be introduced to Worthington based upon several factors. If a purchased part is requested as part of the New Product Procedures, Worthington Purchasing will initiate the Purchased Parts Approval Process.

If a new supplier is being considered for a new or existing part, Worthington Purchasing will initiate the Purchased Parts Approval Process. An engineering change or modification to an existing part can be introduced by various departments of Worthington as well as the supplier of the part. If Worthington requests a change, internal documents generated based upon standard operating procedures will be forwarded to Purchasing and Purchasing will initiate the Purchased Parts Approval Process. If the supplier initiates an engineering change or modification, descriptive information of the change shall be forwarded to Worthington Purchasing and the Purchased Parts Approval Process will be initiated.

Procedure

Once a need has been determined, Worthington Purchasing will initiate the PPAP request. The Worthington staff member assigned to the PPAP will be notified that the PPAP has been created and will be accountable for selecting the appropriate requirements (refer to Table I for a list of potential requirements). After the requirements are designated, the PPAP will be issued to the supplier.

The supplier must provide evidence for all required areas as designated on the Purchased Parts Approval Form prior to a part being approved. The supplier must also provide a response as to when the requirements will be completed, including the date to which samples will be received (if designated in the requirements section).

Potential requirements for PPAP

a. Drawings
b. Sample Parts/Quantity
c. Worthington Dimensional Results
d. Supplier Dimensional Results
e. Product Control Plan
f. Process Control Plan
g. Process Capability Studies
h. Product Capability Studies
i. Design FMEA
j. Process FMEA
k. Flow Diagrams
l. Gage Studies
m. Sub-Supplier Capability Studies
n. Raw Material Testing Requirements
o. Supplier Physical/Material Testing
p. Packaging Approval
q. Trial Run/Quantity
r. Regulatory Approvals
s. Other

Drawings

If designated, all drawings, cross sections, etc. used by the supplier to manufacture and inspect the part shall be submitted to Worthington.

Sample Parts/Quantity

Sample parts are to be made to Worthington approved drawings (Worthington drawing or supplier drawing) or engineering specifications. Sample parts are to be made on production tooling and represent actual production processing. Any deviation from the production processing must be authorized in writing by the Worthington PPAP owner or designee.
When parts are produced from duplicate tools, a sample from each mold, cavity or die shall be forwarded to Worthington.
The quantity of parts requested for the Purchased Parts Approval Process will depend upon the type of part being supplied. The request will include parts needed for Worthington divisional and plant approvals.

Worthington Dimensional Results

Worthington may carry out additional measurements for approval of purchased parts.

Supplier Dimensional Results

Sample parts are to be made to Worthington approved drawings (Worthington drawing or supplier drawing) or engineering specifications. Sample parts are to be made on production tooling and represent actual production processing. Any deviation from the production processing must be authorized in writing by the Worthington PPAP owner or designee.
When parts are produced from duplicate tools, a sample from each mold, cavity or die shall be forwarded to Worthington.
The quantity of parts requested for the Purchased Parts Approval Process will depend upon the type of part being supplied. The request will include parts needed for Worthington divisional and plant approvals.

Product/Process Control Plans

Control plans are written descriptions of the system used for controlling the manufacturing/assembly process. In a control plan, critical variables, ranges, measurement methods and reaction plans are described.

Process/Product Capability Studies

If requested, Process and Product capability studies must be completed for all critical variables with a minimum Cpk of 1.33. Attribute data must meet a minimum requirement of C=0.

Design/Process Failure Modes Effects Analysis (FMEA)

Failure Mode Effects Analysis is a methodical way to examine a proposed design or process for potential failure modes and their effects on the design or process.

Flow Diagrams

Construction of a flow diagram aids in the formal analysis of a process.

Gage Studies

The measurement error must be known of each gage identified in the Control Plan. This is best completed with a Gage Repeatability and Reproducibility (GR&R) study. Upon request the GR&R information is to be submitted to Worthington for review. An acceptable GR&R is less than 20% (preferably less than 10%). However, in certain circumstances, a GR&R up to 30% may be acceptable. Approval will be by signature on the Purchased Parts Approval Form. When similar gages are used between Worthington and the supplier, a GR&R may also be required.

Sub-Supplier Capability Studies

For critical characteristics, sub-supplier Product and Process capability studies must be completed with a minimum Cpk of 1.33 for variable data. Attribute data must meet a minimum requirement of passing C=0.

Raw Material Testing Requirements

All steel and aluminum raw materials used in the construction of supplied components may be required to go through applicable Raw Material Testing.

Supplier Physical/Mechanical Testing

When chemical, physical, metallurgical and performance requirements are specified, the supplier shall perform or have performed by a qualified laboratory evaluations on a representative number of pieces specified by either Worthington or the supplier. These evaluations will be used to assure conformance to requirements. Copies of the test results shall be submitted to Worthington.

Packaging Approval

Due to warehouse and manufacturing processes, certain packaging may not be acceptable for Worthington use. If designated as a requirement, packaging will be evaluated and must meet Worthington requirements prior to approval of the purchased parts.

Trial Run/Quantity

Dependent upon the criticality or the nature of change of a purchased part, it may be determined that a trial run will be required as part of the approval process. The quantity needed will be documented on the Purchased Parts Approval Form.

Regulatory Approval

Certain parts or products need to be evaluated based upon various regulatory requirements that may apply. Specific regulatory requirements will be designated on the PPAP. If designated as a requirement, the supplier must provide evidence of compliance.

It is the supplier's responsibility to notify Worthington Purchasing when any of the following conditions occur.

- New part or product
- Correction of a dicrepancy on a previously submitted part
- Subcontractor or source is changed
- Product modified by an engineering change to design records, specifications or materials
- Manufacturing is transferred to a new plant location
- New method of construction or different material being used
- Significant change in manufacturing process which could cause nonconformance to specifications
- Parts are produced at more than 1 facility (samples are required from each location)
- Product re-released after the tooling has been inactive for volume production for twelve months or more
- Tooling has been added or replaced

Samples of each Purchased Part submitted for approval shall be packaged separately and identified "Purchased Parts Approval Samples".

The supplier shall be notified by Worthington as to the disposition of the purchased parts.

"Approved" indicates that the supplier has manufactured a part that is acceptable to Worthington. The body of the report may indicate variations that are acceptable on a production basis.

"Rejected" indicates that the parts submitted and the group they represent fail to meet Worthington requirements. Corrected samples may be requested to be submitted and approved prior to shipment of production quantities.

D. Supplier Rating Process

Purpose

To provide a rating system that objectively evaluates a supplier's performance in four key areas.

Scope

All suppliers that supply products deemed as critical by Worthington.

Procedure

The supplier rating system consists of the following four categories with their corresponding percentage.

Category	% of Total
PPM (parts per million defects)	20%
Supplier Corrective Action Requests (CAR) Issued & Response Time (RT)	40%
Quality System Score	20%
Delivery	20%

Each category is described in detail below.

PPM – Maximum Score = 20

PPM = Parts per Million = Number of defective parts per million parts supplied.
To obtain the PPM score, the number of parts defective (or rejected) is divided by the number of parts received and then multiplied by 1,000,000.

Score	PPM
20	0
19	1-10
18	11-20
17	21-30
16	31-40
15	41-50
14	51-60
13	61-70
12	71-80
11	81-90
10	91-100
9	101-150
8	151-200
7	201-250
6	251-300
5	301-350
4	351-450
3	451-550
2	551-650
1	651-750
0	751 and above

The number of parts defective (rejected) is defined as the quantity of parts that cannot Immediately be used upon receipt in production due to quality issues. If defective parts are dispositioned as “Rejected”, “Use as is”, or “Rework”, the total number of parts are counted as defective parts in determining the PPM score.

Examples:

- 5000 parts are received and the receiving inspector rejects the lot per the sampling plan. Worthington Management decides to use the parts instead of returning them. The 5000 pieces would count against the supplier’s PPM score.
- 5000 parts are received and the receiving inspector rejects the lot per the sampling plan. The defect is critical and all 5000 parts are sorted 100% at Worthington. 200 defective parts are discovered. The lot of 5000 would still count against the supplier’s PPM score because Worthington could not immediately use the parts in production.
- 5000 parts are received and pass incoming inspection but one defect is found in production. If production inspects 100% of the manufactured product, 5000 parts will count against the supplier’s PPM score.
- During assembly an associate discovers 1 defective part. Worthington Management decides that the defect/risk is not critical enough to inspect the remainder of the lot. One piece would count against the supplier’s PPM score.

Number of Supplier Corrective Action Requests and Response Time (CAR & RT) – Maximum Score = 40

CAR & RT SCORE = 40 – 5(number of “CAR” forms issued) – 5(number of “CAR” forms not responded to within 14 calendar days). Minimum score = 0.

Each “Worthington Cylinder Request for Corrective Action” that is issued to a supplier subtracts 5 points from the maximum score of 40. Each time a supplier does not respond with acceptable corrective action within 14 calendar days, an additional 5 points is subtracted from the maximum score of 40.

Example:

- Supplier “X” is issued 3 Requests for Corrective Action and does not respond to 2 of them within the 14-day requirement results in a CAR & RT score of 15.

CAR & RT Score = 40 – 5 (3) – 5 (2) = 15

Quality System Score – Maximum Score = 20

The Quality System portion of the Supplier Rating score is based upon the effectiveness of a supplier’s quality system. Worthington will measure the effectiveness utilizing various techniques. These include but are not limited to Quality Audits performed by Worthington Quality / Engineering/ Purchasing and/or a supplier’s registration to an ISO standard (or equivalent).

If Worthington chooses to perform an audit, the quality system score will be calculated as follows:

Quality System Score = 20 (Worthington Supplier Audit Score / 100). If Worthington waives the opportunity to perform an audit based upon the fact that the supplier is registered to a specific ISO standard (or equivalent), the maximum score of 20 may be awarded. No matter which scoring method is utilized, the score may be adjusted downward based upon a low score for the PPM and/or the CAR & RT portions of the Supplier Rating score.

Delivery Score – Maximum Score = 20

Delivery Score = 20 (number of deliveries on time / total number of deliveries).

An "On-Time" Delivery is defined as a delivery that is received anywhere from five days prior to the date listed on the Purchase Order to the actual date the delivery was due as per the Purchase Order.

A sample of the Supplier Rating Score sheet can be found in Appendix A.

E. Supplier Status/Certification

Purpose

To provide critical parts suppliers a consistent framework for becoming certified as well as maintaining certification.

Scope

This applies to all suppliers providing critical parts to Worthington Cylinders.

Procedure

All suppliers who provide critical parts to Worthington will be evaluated in accordance with the Supplier Rating System. Supplier Certification is based upon the ratings a supplier receives on a quarterly basis as well as Worthington Purchasing, Supplier Quality and Management assessment. The status/certification levels are described in more detail below. Supplier status is evaluated quarterly and supplier certification is evaluated at least once per year.

Grade "A" Supplier (90 – 100) – Above Average

Supplier has met Worthington expectations and may be considered for certified status (refer to "Certified" criteria, below). Supplier will be a primary source for new parts and will be given priority in the selection process for all approved parts.

Grade “B” Supplier (80 – 89) - Average

Supplier has generally provided adequate part quality. Through continuous improvement this supplier should be able to achieve Grade “A” status. Supplier shall be given consideration when Worthington Purchasing is sourcing new parts.

Grade “C” Supplier (70 – 79) – Below Average

If the business relationship is decided to be continued, the supplier is expected to improve its rating at least to Grade “B”. Supplier shall not be considered as a source for any new parts until a minimum Grade “B” rating is achieved and maintained for two consecutive quarters.

Grade “D” Supplier (Below 70) – Significant Risk

If the business relationship is decided to be continued, the supplier is expected to improve its rating at least to Grade “C” within the next quarter. If the rating does not improve within the next quarter, Worthington Purchasing may exercise its option to cancel all open orders for default.

APPENDIX A

Worthington Cylinders GmbH
Supplier Rating

Quarter	Corrective Action (Maximum = 40)	ISO / Quality System (Maximum = 20)	Parts per Million (Maximum = 20)	Delivery (Maximum = 20)	Total Points (Maximum = 100)	Corresponding Grade
1	40	20	20	20	100	A
2	40	20	20	20	100	A
3	40	20	20	20	100	A
4	40	20	20	20	100	A
YTD	40	20	20	20	100	A

Rating Summary

Quarter:	Quantity of Parts Received:	Quantity of Parts Rejected:	Actual Parts Per Million:
	Quantity of Deliveries:	Number Of Late Deliveries	On-Time Delivery(%):
YTD:	Quantity of Parts Received:	Quantity of Parts Rejected:	Actual Parts Per Million:
	Quantity of Deliveries:	Number Of Late Deliveries	On-Time Delivery(%):