

POWERBOX  
Mastering Power

A Cosel Group  
Company

Supplier handbook

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# Supplier handbook

## INTRODUCTION

The purpose of the POWERBOX supplier handbook is to provide a general overview of POWERBOX expectations of its suppliers as regards to developing an understanding of the related interactions and interfaces. As suppliers are responsible for providing quality products on time with optimal costs, this document is applicable for both contract manufacturers and suppliers that provide both design services and standard products. It is intended to provide guidance as how to build supplier operations that meet our company requirements.

The supplier handbook also clarifies requirements regarding POWERBOX environmental, sustainability and code of conduct requirements.

The supplier handbook complements, but does not overrule other signed agreements, project or product specific specification or requirements.

## CODE OF CONDUCT

### Scope of application

The principles in our Code of Conduct are based on the OECD's guideline for multinational companies. POWERBOX code of conduct has been adopted to underscore the principles by which the company conducts its relations with employees, business partners and other stakeholders.

POWERBOX expect suppliers, partners, consultants and other business partners within its sphere of influence to adopt these principles. In assessment of potential and current suppliers, the principles described in this documents shall be applied.

### Legal compliance

In every country in which it operates, the supplier shall abide by the laws and regulations of that country. In situations where the law does not give guidance, the organization applies its own standards based on its corporate values and culture. In cases of conflict between mandatory law and the principles contained in this code, the law shall prevail.

### Relations with business partners

The suppliers dealings with its business partners should be characterized by fairness. The supplier shall not offer customers, potential customers, governments, agencies of

governments, or any representatives of such entities, any rewards or benefits in violation of either applicable laws or reasonable and generally accepted business practices.

### Accounting and reporting

All financial transactions by the supplier must be reported in accordance with generally accepted accounting practices, and accounting records must show the nature of all transactions in a correct and non-misleading manner.

## SUSTAINABILITY

### Impact on climate

All manufacturing facilities should be run with the best interest of the climate in mind. Suppliers should be able to show POWERBOX their active programs and actions to reduce carbon footprint.

### Resource Efficiency

POWERBOX products and processes should be designed in such a way that energy, water and raw materials are used efficiently and waste and residual products are minimized over the products' life cycle. The suppliers manufacturing facility should be run with with the same resource efficiency in mind.

### Precautionary principle

The supplier shall support the precautionary principle by avoiding materials and methods posing environmental and health risks when suitable alternatives are available.

### Prohibited and restricted materials

POWERBOX requires its suppliers and partners to follow relevant laws and restrictions regarding prohibited and restricted material. The supplier should be able to show POWERBOX the routines they use to collect the information needed to declare compliance to REACH, SCIP, RoHS and conflict minerals.

### Human rights

Within its sphere of influence, the supplier shall support and respect the protection of internationally proclaimed human rights and ensure that it is not complicit in human rights abuses.

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## **Non-discrimination**

The supplier shall treat its employees and any other workers or associates in a manner that does not discriminate with regards to gender, race, religion, age, disability, sexual orientation, nationality, political opinion, union affiliation, social or ethnic origin. Workplace diversity at all levels is encouraged.

## **Labor**

No form of forced, compulsory or child labor is accepted by POWERBOX. The minimum employment age is the age of completion of compulsory school. Freedom of association and the right to collective bargaining and agreements shall be respected in all operations.

## **Work Environment**

The necessary conditions for a safe and healthy work environment shall be provided for all employees. Risk assessments should be carried out in order to identify hazards at work. If identified as necessary personal protective equipment, PPE, should be supplied by the employer.

## **PROTECTION OF PROPRIETARY INFORMATION**

The parties shall not disclose commercial, technical or other sensitive information to a third party unless otherwise has been agreed in writing.

## **QUALITY SYSTEM REQUIREMENTS**

Suppliers are responsible for development, documentation, implementation and maintenance of a quality system that complies with ISO9001 and ISO14001 as a minimum quality demand. Compliance with ISO13485 / IRIS is preferred for suppliers within the Medical respectively Railway segment.

## **PRODUCT QUALITY**

### **Product design**

Suppliers / partners that provide product design services shall implement and maintain a process that secure proper verification and validation of products. POWERBOX shall have full access to the results from the verification and validation process.

## **Audits**

POWERBOX will carry out audits on regular basis. The supplier is required to take action and respond to identified non conformities and observations within the stipulated time frame.

## **Access to production site**

POWERBOX or Customer to POWERBOX shall be able to visit supplier's/ partner's production facilities. Such visit shall be announced in advanced and be agreed by the parts. POWERBOX will always have a representative during a visit requested by an end customer.

## **Supplier performance measurement**

Supplier performance will be measured on regular basis. Typical parameters are: delivery precision, delivery accuracy, non-conformities identified during inbound inspection, end customer complaints and response times.

## **Handling of customer owned production equipment**

Production equipment owned by POWERBOX or end customer shall be clearly marked regarding the ownership. The supplier is responsible for day to day maintenance and calibration as long as nothing else has not been agreed. Equipment owned by POWERBOX shall only be used for manufacturing of POWERBOX products.

## **Workmanship**

All manufacturing shall be done in accordance with relevant IPC standards. POWERBOX minimum requirement is that the electronics manufacturing process comply with the IPC-A-610 Class 2 if nothing else has been agreed.

## **ESD**

The supplier shall implement and maintain an ESD protection program that ensures that components, sub-assemblies and finished goods are fully ESD protected during the complete manufacturing process.

## **Process statistics and yields**

Suppliers that manufacture products that are designed by POWERBOX are required to provide first pass yield data from each production step on regular basis as part of the suppliers work with continues improvement.

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## Deviations permits

Deviations from agreed product or process specifications must be applied in writing. The request shall as a minimum include: reason for the request, description of the deviation, potential impact on the product, delivery schedule and quality performance. Acceptance from POWERBOX shall be received in writing before manufacturing / delivery.

## Traceability

The supplier shall establish and maintain a system for traceability of changes in documentation, products and processes. The requirements in the product unique production quality plan for products designed by POWERBOX shall apply when applicable. Batch controlled traceability on component level is preferred and might occur as a requirement in specific projects.

## Retention of records

Quality records for the product delivered under the Purchase Order must be retained for a minimum of 10 years after final delivery unless other time period has been agreed.

## Change control

Depending on the type of change the supplier is expected to request approval (before implementing), inform (before implementing) and maintain traceability on when the change was implemented. A guideline to when approval is requested is shown in the tables 2A and 2B below.

## Continuous improvements

Suppliers / partners to POWERBOX shall work efficiently with their own improvements and continuously strive towards higher efficiency and lower cost.

## Handling of non-conformance

POWERBOX requires its suppliers / partners to respond on reported non-conformities according to Table 1 below. Reporting shall be done in 8D format or in other well recognized format. The report shall as a minimum include a root cause analysis containment action, corrective action and a preventive action.

Table 1 - Handling of non conformance

Type of non-conformance case	Definition	Lead time for the supplier to acknowledge having received the RMA	Targeted lead time to define if under warranty or not	Targeted lead time to present full report and to close the case	8D report required	Appointed dedicated contact required at the supplier
Cat 1	Systematic defects requiring deep analysis of the units and of the customers application. Continuous reporting and dialogue with the customer.	3 working days	15 calendar days	TBD on case by case basis but a target lead time must be agreed initially including a time plan.	Yes, extended version	Yes
Cat 2	No systematic defects but demanding customer requiring report with corrective and preventive actions.	3 working days	15 calendar days	30 calendar days	Yes	No
Cat 3	Single failure, no special requirements on reporting.	3 working days	15 calendar days	15 calendar days	No, only service report comments.	No

Table 2A - Partners that provides both design and products.  
Approval may be required for certain customers and products.

Type of change	No requirement	Inform	Request approval
Changed specifications		X	
Change component due to obsolescence	X		
Changed components related to root cause analyses and yield improvements.		X	
Changed manufacturing site		X	
Changed manufacturing process		X	
Changed sub suppliers for product unique parts		X	

Table 2B - suppliers (CEM's) that manufacture products designed by POWERBOX

Type of change	No requirement	Inform	Request approval
Changed sub suppliers for product unique parts			X
Changed manufacturing site			X
Changed manufacturing process			X
Changed manufacturing equipment			X
Changed process material / chemicals			X
Changed organization		X	

We hereby confirm that we have received, read and understood the content of the POWERBOX Supplier Handbook.

We accept the provisions of POWERBOX Supplier Handbook and take the responsibility to ensure compliance and inform our concerned employees about the content as part of our regular standars and policies.

Name of supplier company: \_\_\_\_\_

Authorized signature: \_\_\_\_\_

Printed name: \_\_\_\_\_

Title: \_\_\_\_\_

Date and place: \_\_\_\_\_

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