# Special processes

# **SUPPLIER MANUAL**

Designation: P004 - PK\_P5\_AJ

Edition: 1

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Page 1(5)



# **DOCUMENT CONTENTS**

CONTENTS	1
1. INTRODUCTION	2
2. REVIEW OF CONTRACT AND PROPOSAL	. 2
3. COOPERATION	. 2
4. STAFF	. 2
5. DEVICE	3
6. WORKING PROCEDURES	3
7. REPAIR OF A NON-CONFORMING PRODUCT	4
8. QUALITY RECORDS	4
9. CONTROL DEVICE	. 4
10. PERIODIC AND EXTRAORDINARY PROCESS CONTROL	. 4
11. CHANGE OF TECHNOLOGY BY THE SUPPLIER	5





Designation: P004 - PK P5 AJ
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**Special processes** 

Page 2(5)

#### 1. INTRODUCTION

Where the results of the processes cannot be fully verified by subsequent inspection and product testing, and where, for example, processing defects may only appear during product use, operations (special processes) must be carried out by qualified personnel or process parameters must be continuously monitored and regulated to ensure that the specified requirements. Qualification requirements for process operations including associated equipment and personnel must be specified.

### 2. REVIEW OF CONTRACT AND PROPOSAL

Before introducing new production, it is necessary to review the contractual requirements and technical documents (drawings, technical conditions, etc.) for the product. The departments concerned with the introduction of new production have their say on this. Furthermore, all the necessary information for the execution of the production tasks must be ensured to be available before the work starts.

## The review serves:

- To confirm that CARRY TECH INDUSTRIES s.r.o. is able to fulfill or transfer customer requirements within the supply chain
- Confirmation that it has available suitable production and control facilities
- Confirmation that the technical documentation is clear, unambiguous and complete
- Confirmation that it has qualified personnel for the required work
- Confirmation that delivery dates are realistic
- Assessment of basic materials from the point of view of heat treatment

#### 3. COOPERATION

If some production activities are carried out in cooperation, then CARRY TECH INDUSTRIES gives the subcontractor all the necessary documents for production, including the full transfer of the customer's request. The subcontractor must confirm the bindingness of CARRY TECH INDUSTRIES' GTC as part of the offer confirmation. They must prepare the required logs/documentation/COC about their work.

# 4. PERSONNEL

A sufficient number of qualified personnel for process execution, inspection and supervision must be available to carry out the work. Qualifications are governed by the general requirements for the work class of the field and knowledge of the requirements of the relevant production and control instructions (ČSN, EN, ISO, etc.). Workers at all levels must be trained for individual processes. They must be trained in professional methods and requirements of production and inspection instructions. They must be instructed in the operation of instruments





Designation: P004 -
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**Special processes** 

Page 3(5)

and equipment. In the case of changes in staffing, it is necessary to secure a qualified replacement well in advance.

#### Welders:

Welders must have a qualification confirmed by a relevant test in the corresponding scope according to ČSN EN 287-1, ČSN EN ISO 9606 or ČSN 05 0705.

# Surface protection workers:

Internal training at least once a year within your organization or externally

#### Heat treatment workers:

Internal training at least once a year within your organization or externally

#### Control staff:

The manufacturing organization must have a sufficient number of qualified personnel available for quality control, testing and verification of the relevant work. A worker can obtain the qualification by completing a course for inspectors, being employed by an experienced worker or welding supervisor and practical experience. Workers performing non-destructive testing (NDT) must be qualified according to ČSN EN 473.

#### 5. DEVICE

For the internal or external implementation of a special process, the following applies - the organization must have suitable production and testing facilities for the production and quality verification of welded structures. A list of all major equipment used in welding work must be maintained. The list should contain the main data about the device. Each main device must have a diary or record card, where inspections, repairs, maintenance, etc. are recorded. For production equipment for the implementation of special processes beyond the scope of inspection and maintenance, calibration obligations of the main measurable parameters apply in a period of no longer than 3 years.

# **6. WORKING PROCEDURES**

Work procedures and technological procedures are defined as follows:

• Special processes - external:

Within the work instruction, the technologist defines the required output parameters (e.g. layer thickness and hardness for the quenching process/ layer thickness and visual requirements for the anodizing process) using the CARRY TECH INDUSTRIES supplier manual .





Designation: P004 - PK\_P5\_AJ Edition: 1 Effective: 03/27/2024

**Special processes** 

Page 4(5)

#### 7. REPAIR OF NONCONFORMING PRODUCT

Appropriate work procedures must be in place within the organization to repair non-conforming products. After the repairs have been made, it is necessary to re-check and check the quality according to the original requirements. The supplier is obliged to clearly mark repaired pieces so that they can be distinguished from normal production.

# 8. QUALITY RECORDS

Inspection performance records are made directly on the card as part of internal special processes or supplied by the supplier with COC. Quality records must be kept for at least for the period defined in the supplier's manual, unless other prescribed requirements state otherwise. He forwards the logs to CARRY TECH INDUSTRIES if required by the contract/order.

## 9. CONTROL DEVICE

Suitable and verified parts must be available for quality control, measurement and testing or a calibrated control device with an uninterrupted link to an international standard. The following applies to measuring and control equipment. The special process supplier must maintain a complete record of all measuring devices with the following information for each item:

- Designation
- Range and accuracy
- Calibration date
- Date of next calibration
- Calibration procedure with guaranteed continuity to the international standard
- Acceptance criteria
- The maximum length of the calibration interval is allowed for 3 years

## 10. PERIODIC AND EXTRAORDINARY PROCESS CONTROL

All special processes must be checked at regular intervals with regard to the ability to produce consistent outputs in accordance with the specification. Unless something extraordinary happens

events (significant disagreement, accident, complaint, finding or decision of the representative management) all special processes are checked at least once a year. Control rests

in the evaluation of the properties of samples on which the special process was implemented in the same mode

as with standard production. Planning periodic checks and ordering and sending them samples falls under the quality manager. The quality manager keeps track of the results of process controls

records, while samples are not archived and must be irreversibly damaged before scrapping.

Welding: visual inspection of the weld, dimensional inspection of the weld





Designation: P004 PK\_P5\_AJ
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**Special processes** 

Page 5(5)

- Anodized: layer thickness, visual inspection of the layer
- · Passivation: visual inspection of the layer
- Heat treatment: layer thickness, visual inspection of the layer

# 11. CHANGE OF TECHNOLOGY BY SUPPLIER

The supplier must immediately notify any significant change in technology (machine, equipment, procedure, place of implementation).