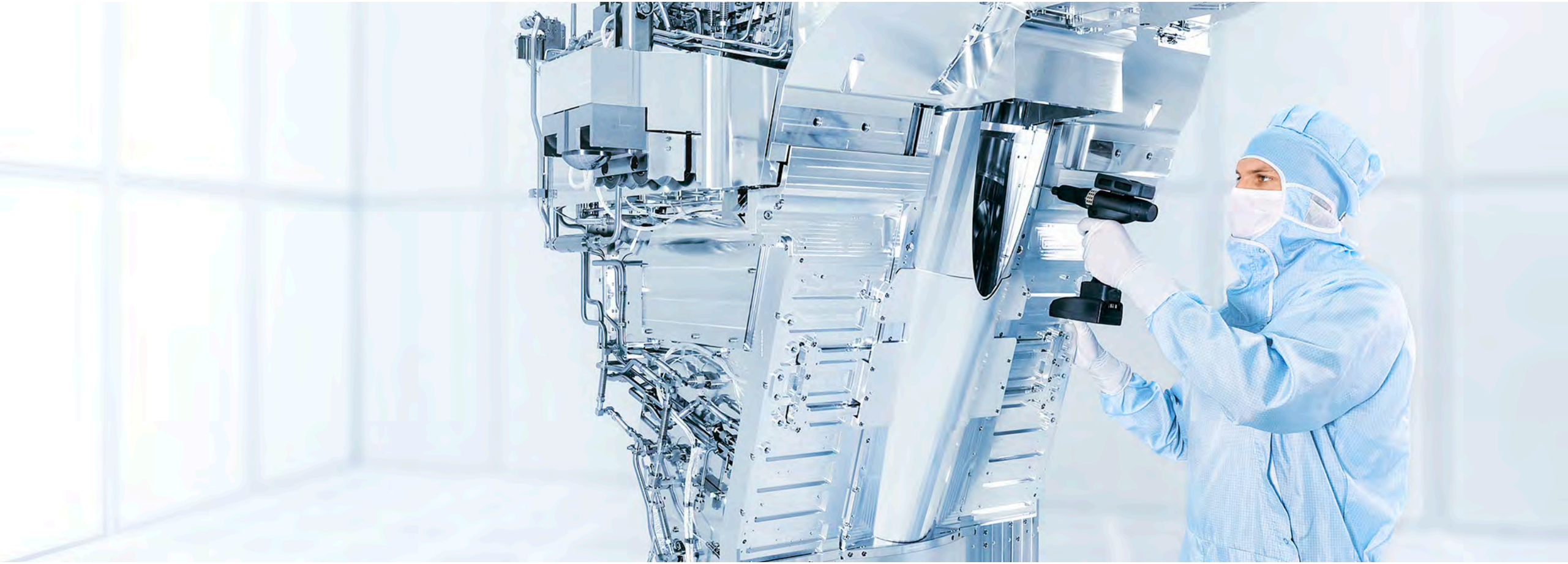
Guideline for initial sample inspection (ISIR) by the supplier



Oberkochen, 2021-06-23

Version 03

Agenda

1. Background
2. Sampling matrix
3. Instruction - Howto: General requirement for the attachments of the initial sample inspection (ISIR)
4. Overview contents of the attachments
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Agenda

Agenda

Background

Excerpt from SMT guideline for ISIR-process: "RM~Erstmusterprozess (series product and process release)

In SMT, all appropriately classified purchased parts that are installed in saleable units must be subjected to initial sampling/serial release. On the basis of initial samples, the supplier is to provide **evidence** that the **quality requirements** are met **under series conditions**, i.e. with the tools, machines and processes intended for series production.
The completed **initial sample approval** documents a **"design and process freeze" at the supplier**. Subsequent change requests must be submitted by the supplier in the form of a change request.
Unsuccessfully completed initial samples may **only** be supplied for series assembly **with an approved measurement report** or, in the case of **deviations, with an approved deviation Request** or a **TA list (Technical Agreement).** These parts must be re-sampled.

In the following cases, an **initial sample inspection (EMP)** must be performed:

1. New component/assembly (new material number) with an „A“ or „B“ classification from Zeiss
2. New supplier
3. Decision of a change panel for an EMP after a request for change on the part of
    a. of the customer
    b. of the supplier
    c. of an SMT internal area
4. Rejection of the initial sample inspection

Re-sampling is additionally required in the following cases:

1. in case of changed specifications (triggered by SMT or by the supplier),
2. In case of process changes (tool changes, changes of or sub-suppliers, etc.),
3. in the case of production relocations (triggered by SMT or by the supplier),
4. if the Supplier has not provided any deliveries of services to ZEISS for a period of 18 months or longer,
5. at the request of ZEISS.

Sampling matrix
Presentation stages

Analogous to the template levels used as a basis, the ISIR-elements / Attachements must be presented by the supplier as shown in the sampling matrix below

# Contents	★ 00 ISIR Coversheet	01 Manufacturability incl. risk assessment	★ 02 Part / product drawings	03 TA- / Specifications list	★ 04 Measurement report	05 Conformity of material	06 Control plan	07 Inspection plans	08 Process- / product FMEA	09 Repeatability / process capability	10 Measurement system analysis	11 Process audits	12 Sub-supplier qualification	13 Measuring equipment list	14 Part history table	★ 15 Serialization & Traceability	16 Verification of capability	17 Test data management	18 Additional verifications
Re-sampling	x		x	x	x	x	x									x		x	
B-parts	x	x	x	x	x	x	x									x		x	
A-parts	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

★ Minimum requirements before ISIR-release for „Other Samples“.

Instruction - Howto:
General requirement for initial sample inspection (ISIR)

- The cover sheet from the Zeiss ISIR templates must be used by the supplier for sample approval.
- For appendices #06 Production Control Plan, #07 Inspection Plans, #08 Process/ Product FMEA, the checklists in the appendices must be filled in by the supplier. As additional evidence, own verification documents can be added.
- If the other attachments correspond to the content of the ZEISS ISIR templates, the Supplier may also use its own templates after consulting ZEISS.
- In case of non-capable processes, a 100% inspection of the characteristics must be carried out.
- The initial sample test report may only contain values that comply with the specifications. In case of deviations, a customer approval must be obtained beforehand in order to present the initial sample test report.
- In the EMP/ISIR template under the tab "Howto" it is defined in short form how to apply the Excel template.
- The documentation of the initial sample inspection report requires timely and thorough coordination between supplier and customer.

Overview contents of the attachments
Template requirements #00- #08

Attach-ment no.	Notes
00a 00b	**ISIR - Cover sheet:** - Contains the basic data of the presented products - the cover sheet also applies to the annexes of the ISIR - indicates the annexes / attachments of the ISIR - indicates the reason for sampling - contains the serial numbers / IDs of the presented samples - contains the signature of the supplier confirming the binding nature of the report - contains the customer's test decisions for the individual attachments - contains the customer's signature confirming the binding nature of the report inspection - the report may only be presented if all presented characteristics are within the specification, otherwise a deviation approval of the customer must be obtained!
01	**Manufacturability incl. risk assessment:** - Confirmation of manufacturability of the product presented under standard conditions and compliance with all applicable specifications, in case of conditional manufacturability by the supplier, this shall be marked in the remarks field and a TA list agreed with the customer shall be attached in Appendix #03
02	**Part / product drawings:** -The leading drawing (specification) is released by the customer and is the basis for sampling with the version status indicated in the cover sheet -In addition to the numbered balloon dimensions/test characteristics of the customer, further (critical) characteristics agreed with the customer should be continuously stamped by the supplier on the part / product drawing -The stamped drawing shall be added as an attachment to the ISIR
03	**Technical Agreement (TA) or (Spec-) List:** - Summary / overview of all valid specifications - In case of deviations, the column "Designation (+Document No.) of the TA" must be filled in with reference to the TA agreed with the customer. A comment for the reason of the deviation must be added in the Remarks column
04a 04b	**Measurement report:** - Result report of quantitative and qualitative characteristics with reference to respective specification (drawing, cleaning measurement report with RGA values/electrical test/pressure acceptance/specs, …) - the measuring method/measuring equipment must be documented - For dimensions, the nominal dimension, upper and lower tolerance for each measured value must be indicated - the test values are to be documented for each sample presented - deviation from the nominal dimension and evaluation i.O./ n.O. - The test method, test configuration, test equipment concept must be documented and attached as an appendix - The samples presented must be marked in such a way that the measurement results can be traced back - Before using a test equipment, its suitability has to be proven by a measuring system analysis (MSA/ Gage R&R) => see Appendix #10
05	**Conformity of material:** - Documentation of specification-compliant, material-specific test results with reference to the requirements in the specification (3.1 material certificates/data sheets). - Confirmation of full compliance with REACH requirements with reference to the valid revision of the specification (revision level, date). - Confirmation of full compliance with RoHS requirements with reference to the valid revision of the specification (revision status, date).
06a 06b	**Control Plan (CP):** - Clear chronological representation of all process, transport, processing, testing ,packaging, storage and shipping steps of the product from goods receipt to delivery to the customer - with flow chart of the process - Presentation of the special characteristics and how they are dealt with - indication of the working and testing instructions or reference to them - which test equipment is used - inspection specifications (nominal dimension + tolerances) - test frequency - reaction plan - The CP checklist is to be filled out by the supplier, if necessary CP is to be attached as a verification document, otherwise it is to be made available for on-site inspection.
07a 07b	**Inspection Plans:** Describe the tests to be performed, specifying: - individual test steps - Nominal values (target values) - Tolerances - Inspection frequency - Test / measuring equipment to be used (if applicable, test equipment number....) - Classification: Special features (SCs, CCs, SPC, D-parts...) - Remarks / Notes
08	**Process-/ Product FMEA:** - FMEA in teamwork - Boundary risk defined - Defect catalog used defined and applied (significance, detection, occurrence) - Measures to reduce the marginal RPN are defined - Improvement measures have been implemented and effectiveness has been evaluated - No action with exceeded limit RPN and unapproved residual risk open - Special features are defined - Process flow diagram (for P-FMEA) is available - Cycle for regular review of FMEA is defined (especially after complaints/tolerances) - FMEA is understandable and comprehensible (no meaningless terms but clear descriptions) - Only ISIR-appendix to be completed, FMEA(s) to be viewed on site

Overview contents of the attachments Template requirements #09- #18

09	**Repeatability / process capability:** - Special features, capability features are defined and agreed with customer - SPC characteristics (SPC = Statistical Process Control) defined and agreed with customer (if applicable) - Sample size, sample scope defined and agreed with customer - Calculation method (software, tools: Minitab, statistical software...) defined and agreed with customer - Check for normal distribution proven, otherwise adjusted calculation - Cp, Cpk, Pp, Ppk, Cm, Cmk- capability indices (e.g.: Cpk > 1.33, Cmk ≥1.67, Ppk ≥1.33) defined and agreed with customer - Measures defined in case of non-capable processes (100% inspection) - Capability characteristics specified in Control Plan (if applicable, in inspection plans). - Only capable test equipment may be used for capability measurements of the characteristics (MSA/ Gage R&R...).
10	**Measurement system analysis:** The measurement system analysis proves that the test system used is capable of taking into account: - operator influence - repeatability - reproducibility - Gauge dispersion within the specified range - No use of non-capable test equipment (exception: use as test equipment for testing requirements not relevant to the customer) - Use of verified and validated statistical software (e.g. Minitab, ...) - Disturbance variables in the test process determined and taken into account - Repetition of MSA is defined and described in the Control Plan - Specifications or reference to standards (Gage R&R, VDA Volume 5, ...)
11	**Process audits**: 1. The supplier shall self-assess and document its own and its supplier's processes in advance of the ISIR and release according to each stage of product and process development. The planning, development and implementation of controlled and capable processes is an essential part of the activity for the start-up of new or modified products. In doing so, the execution of these activities is supported by documents and records. This includes, for example, P-FMEA, Control Plan, work instructions, inspection plans, capability statements, sub-supplier review 2. internal audit reports may be inspected on site at the request of the customer 3. in addition, SMT (customer) can check the supplier's approval process at an on-site appointment (e.g. process inspection at the supplier's premises, process audit) if required and notified in advance. Target: I. SMT checks the conformity to the process specifications (planning, realization, if necessary random check). II. process inspection to check the conformity against the qualification and verification by the supplier
12	**Sub-supplier qualification:** With the sampling of the series components, the supplier confirms that all components/materials/processes of his sub-suppliers are monitored, qualified and approved according to the required specifications Proof: - Release cover sheets/ CoC proofs of sampling of its subcontractors/service providers will be enclosed to the customer as an attachment, if applicable. - If applicable, inspection of the sampling concept, component classification, sampling criteria of the subcontractors/service providers and approval process

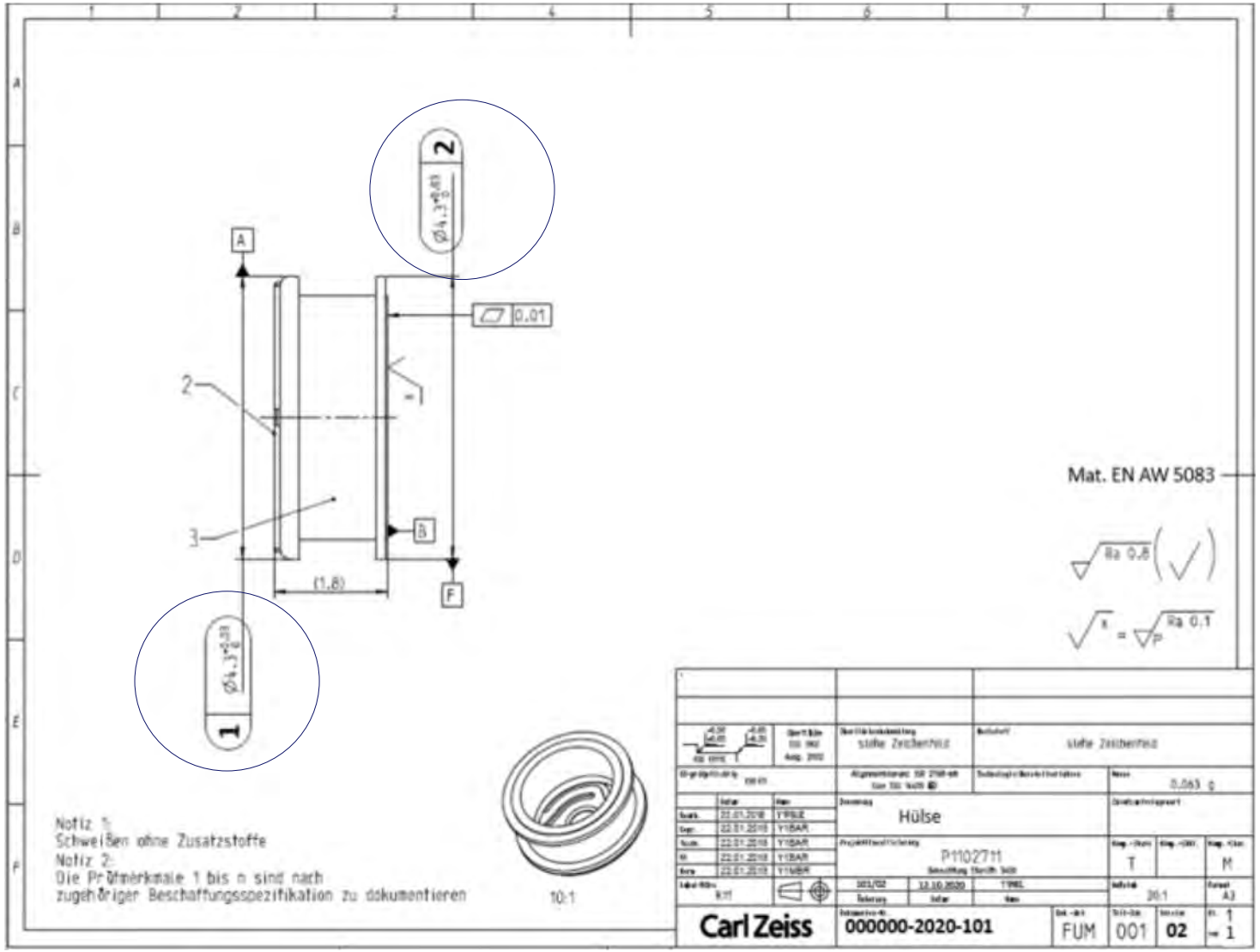
13	**Measuring equipment list:** The test and measurement equipment list is intended to provide an overview of the measurement and test equipment used (test equipment planning, CP, test plan, measurement system analysis) for the production of series components or to ensure that the required specifications are met in the series process Contents of the test equipment monitoring: - Identification of the test measuring equipment by means of inventory number - Defined calibration interval - Next calibration to be performed - Resolution of the measuring device - Accuracy of the measuring device - Test equipment capability
14	**Parts history table:** Enables the traceability of (process/product) changes as well as the traceability of the sampling history from the beginning of the conceptions -From shipment of the first sample components (other-sample, pre-series sample, series components). -Other samples corresponds e.g. engineering and pre-production samples (externally identical to ISIR, but no initial sample test report, parts do not have to have been manufactured under series production conditions. Extent of documentation to be determined on a part-specific basis
15	**Serialization & Traceability:** All serial parts must be formally indicated with ID number on the cover sheet to ensure its traceability
16	**Verification of capacity:** In the ISIR, the requested capacity (ridge line) of the components is confirmed, taking into account production under series conditions, including existing performance reserves (e.g. additional utilization of extra shifts...). A plausible emergency plan for the makeshift production of the parts under emergency conditions is to be demonstrated, e.g. on site. For this purpose, the document is to be submitted as a separate attachment or evaluated in a process acceptance / process audit by the customer
17	**Test data management:** - Ensuring that data formats, contents, provision periods, data transmission interface, etc. are clarified and transmitted in series without being requested. - It can be measured values, parameters, analysis results, etc., which the customer requires for further processing.
18	**Additional verifications:** - Proof of suitability load carrier and packaging - tool list - Cleanliness concept - ESD protection concept - Plant and hall layout plans for production - Qualification and competence of employees - Approval of manufacturing processes - Traceability, document with serial numbers maintenance clarified

Example component

Sleeve,
material no. 000000-2020-101

from

SupplierX



00a ISIR - Cover sheet

Initial Sample Inspection Report (ISIR) Coversheet

English <--- Sprache auswählen. Choose Language

Sender:
Supplier:
Contact person:
Site:
Street:
Zip code City:

Addresses are to be filled in by supplier

Recipiant:
Customer:
Contact person:
Department:
PO box:
Plant:
Street:
ZIP code, city:

Initial sample inspection

Submission level

☐ 1 ☐ 2 ☑ 3

Submission level is specified by the customer

- ☑ Initital Sample Inspection Report (ISIR)
- ☐ Resampling
- ☑ New part
- ☐ Product change
- ☐ Relocation of production
- ☐ Change of production processes
- ☐ Suspension of production for a longer period
- ☐ New subsupplier
- ☐ Inspection report other samples

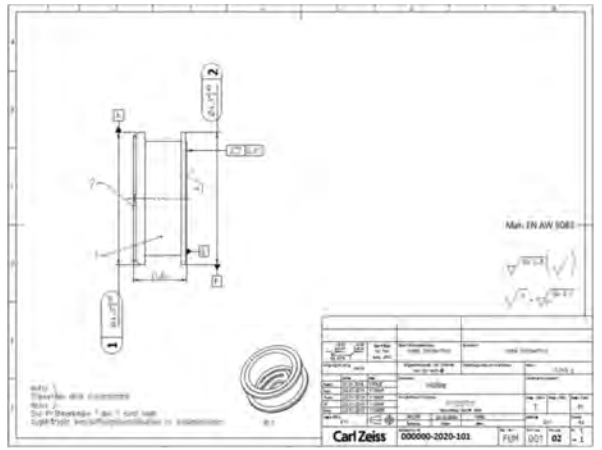
Sampling reasons are given by the customer

Attachments

- ☑ 01 Manufacturability incl. risk assessment
- ☑ 02 Part / product drawings
- ☑ 03 TA-/Spec.-List
- ☑ 04 Measurement report
- ☑ 05 Conformity of material
- ☑ 06 Control plan
- ☑ 07 Inspection plans
- ☑ 08 Process-/ Product FMEA
- ☑ 11 Process Audits
- ☑ 12 Sub-supplier qualification
- ☑ 13 Measuring equipment list
- ☑ 14 Parts history table
- 15 Serialization & Traceability
- 16 Verification of capacity
- ☑ 17 Test data management
- ☑ 18 Additional verifications

Required equipment is specified by the customer

→ **ISIR attachments are filled in as examples for training purposes**
→ **Example component: Sleeve 000000-2020-101 V02 of the company SupplierX**



00a ISIR - Cover sheet

Identification number, supplier:		**ID number, customer:**	
Inspection report no.	EMPB_15_10_20_2020-101_supplierX_V2	**Inspection report no.:**	EMPB_15_10_20_2020-101_supplierX_V2
Material number:	404030-20	Material number:	2020-101
Drawing number:	404030-02	Drawing number:	2020-101/01
Version/date:	02/12.10.2020	Version/date:	02/12.10.2020
Change number:	404030-02	Change number:	101/02
Part designation:	Sleeve (Hülse)	Part designation:	Sleeve (Hülse)
Order number./date:	19.10.2020		
Delivery number:	**Date:**	**Incoming goods no.:**	**Date:**
Delivery quantity:	Pieces:	Unloading place:	Carl ZEISS SMT, Logport 8
Part ID:		Order number./date:	19.10.2020

Component-related data must be filled in by the supplier

Delivery bill information & initial sample data to be filled in by supplier

Logistics information to be filled in by customer

Supplier confirmation:

We herewith confirm that the submitted initial samples have been manufactured, measured and approved under series conditions with series equipment.
The correctness of the determined actual values is hereby confirmed.

Name:	Max Mustermann	Remarks:
Department:	Quality management ISIR	
Phone:	0049-711-2004-12	
Fax/ E-Mail:	max.mustermann@supplierX.com	
Date; Signature:	15.12.2020	

Signature of the responsible person of the supplier & remarks, if applicable

00a ISIR - Cover sheet

Customer decision:	Overall:	According to attachment:																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Approved																			
Approved with conditions, resampling																			
Rejected, resampling																			

Customer decision of individual attachments as well as overall decision is to be filled in by the customer with crosses.
-If a field is completely rejected, the EMP must be presented again.
-If a field under Release with condition is checked, this plant must be presented again, for the overall release (The worst individual result corresponds to the overall result of the ISIR).

Deviation permission no.:

When returning delivery bill no./date:

Filled in by the customer. Depending on the customer's decision: indication of deviation approval or delivery bill details return of ISIR samples.

Department (development; OV) -date, department, IT-code; name, first name	Remarks:
Technical supplier development, date, partial, DP abbreviation; name, first name	Customer signatures and comments in case of release with conditions or rejection of the ISIR
Quality management supplier, overall release date, partial release date, DP abbreviation; last name, first name	

00b ISIR - cover sheet #2
Attachment overview

Attachment overview cover sheet # 2

Inspection report no.: EMPB_15_10_20_2020-101_supplierX_V2		
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020

Data is taken from the cover sheet

	Attachment:	Status, date:	Type, scope and identification of the attachment:
☑	00 Cover Sheet	15.12.2020	Cover-Sheet, Version 02
☑	01 Manufacturability incl. risk assessment	October, 15th. 2020	Manufacturability_SupplierX_V04.pdf
☑	02 Part / product drawings	20201015	Marked drawing 2020-101_Sleeve_V03
☑	03 TA-/Spec.-List	15.10.2020	See documents in #03 - no TA-Ist negotiated
☑	04 Measurement report		M_Sleeve_04.pdf
☑	04 Measurement report Cleaning		aning standard FU 1000711
☑	05 Conformity of material		ACH & ROHS-documents
☑	06 Control plan	01.10.2020	Control-plan_Sleeve_SupplierX_V06.pdf
☑	07 Inspection plans	21.05.2020	Inspection_Sleeve_V04.xls
☑	08 Process-/ Product FMEA	15.10.2020	FMEA-Checklist, see checklist in #08
☑	09 Repeatability/ process capability	15.10.2020	Process capability_Sleeve_V05_xls
☑	10 Measurement system analysis	04.02.2020	Analysis_CMM_Tolerance +0,03.pdf
☑	11 Process Audits	15.10.2020	Audit-plan_Sleeve-qualification_V03.pdf
☑	12 Sub-supplier qualification	21.06.2020	Release_SupplierY_.pdf

Attachments with detailed information are to be completed and marked by the supplier according to the cover sheet.

- **The attachment overview supports the supplier as well as the customer to check if all documents relevant for the customer are available and attached**
- **Refer to the cover sheet for ISIR attachment requirements**

00b ISIR - cover sheet #2
Attachment overview

☑	13 Measuring equipment list	15.09.2020	Abstract_equipment-list.pdf
☑	14 Parts history table	15.10.2020	Parts history table with change from version 01 to 02
☑	15 Serialization & Traceability	15.10.2020	see checklist #15
☑	16 Verification of capacity	31.07.2020	mail_key-account_200820.pdf
☑	17 Test data management	21.03.2020	Sreen-shot-test-data_Sleeve.pdf
☑	18 Additional verifications	12.08.2020	logistics overview

Supplier confirmation	**Customer confirmation**	**Customer decision**	
Remarks: To be filled in by the supplier	Remarks: To be filled in by the customer and Customer decision by ticking the boxes (add remarks if necessary)	**Approved**	
		Approved with conditions, resampling	
		Rejected, resampling	
Name: Max Mustermann Department: Quality management ISIR Phone/Fax/E-Mail: 0049-711-2004-12 max.mustermann@supplierX.com Date, Signature: 15.10.2020	Name: Department: Phone/Fax/E-Mail: Date, Signature:		

01 Manufacturability incl. risk assessment

01 Manufacturability incl. risk assessment

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020

Data is taken from the cover sheet

We hereby confirm that the submitted samples were produced under controlled, serial conditions. The quality and maturity of the samples, including all manufacturing processes, fully complies with the specifications (see attachments 2 and 3) referred to the cover sheet and the parts history table under series production conditions.

The manufacturability of the components under series conditions is additionally confirmed in the fully completed form GS.07b Manufacturability Assessment (Zeiss template) and attached to this annex.

Supplier c	Customer confirmation	Customer decision
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name:	Name:	
Departmer	Department:	
Phone/Fax	Phone/Fax/E-Mail:	
Date, Signature:	Date, Signature:	

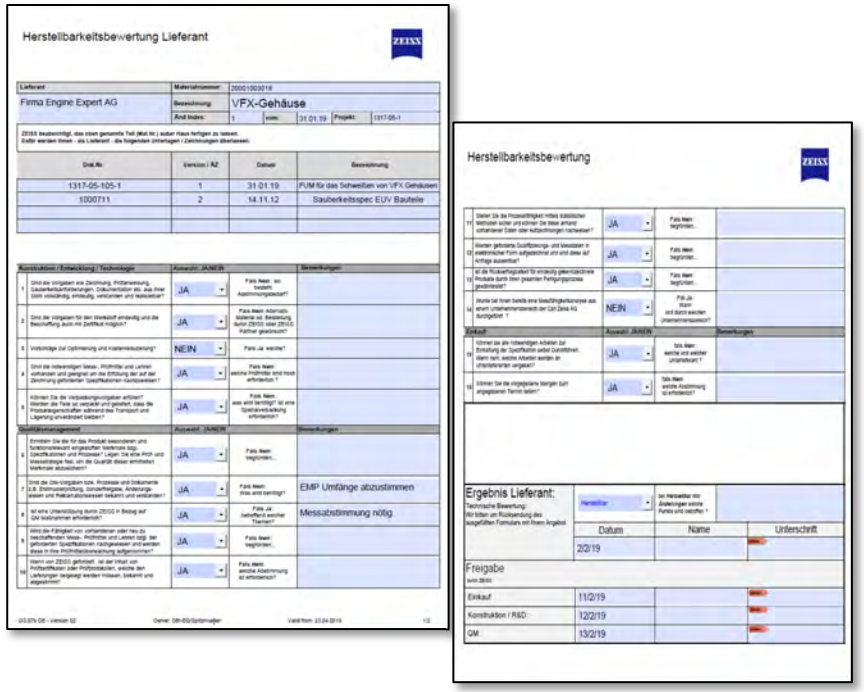
Confirmation of the manufacturability assessment incl. risk assessment additionally of the attachment manufacturability assessment supplier, analog download link fill in and attach.

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

- **In the case of conditional manufacturability by the supplier, this is to be indicated in the remarks field. mark and include a TA list coordinated with the customer in Attachment #03.**
- **The manufacturability assessment refers to parts of the series process, such as those produced for the ISIR.**

https://www.zeiss.de/corporate/zeiss-lieferanten/dokumente-fuer-lieferanten.html

Form GS.07b will be provided to the supplier at the following link and must be enclosed:



02 Part / product drawings

02 Part / product drawings

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020

Data is taken from the cover sheet

We hereby confirm that the leading drawing/ 3D-Model corresponds to the current, approved status as stated in the cover sheet and parts history table and is attached to the sample submission.

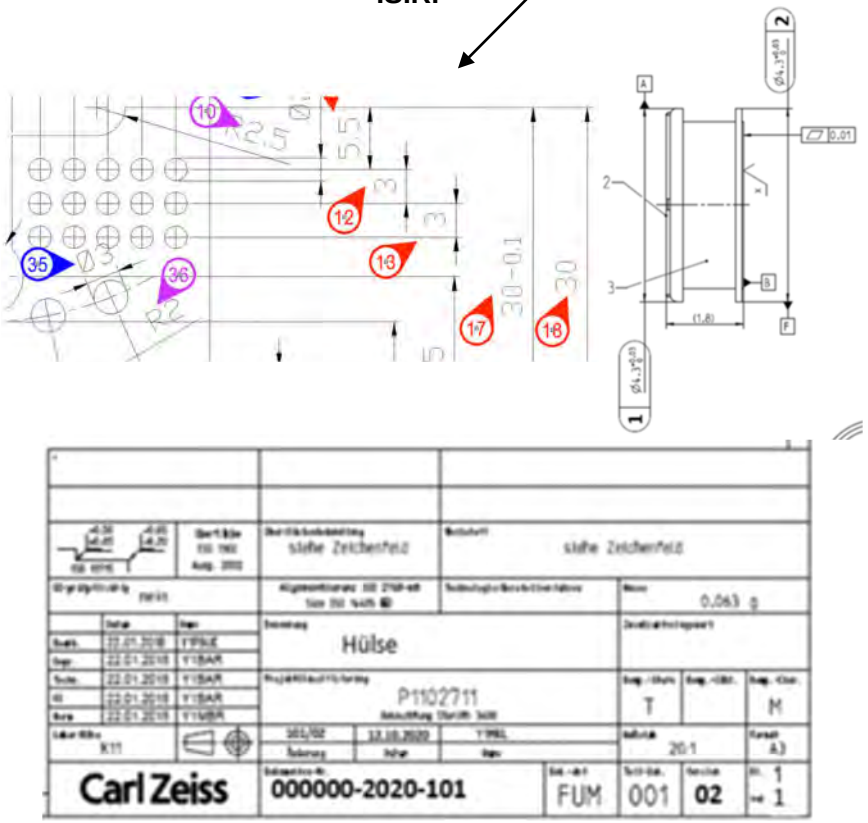
The agreed characteristics and criteria are marked in the drawing in such a way that a reference to the criteria and test results in the attachments of this document is always possible.

Supplier confirmation	**Customer confirmation**	**Customer decision**
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name: Max Mustermann Department: Quality management ISIR Phone/Fax/E-Mail: 0049-711-2004-12 max.mustermann@supplierX.com Date, Signature: 15.10.2020	Name: Department: Phone/Fax/E-Mail: Date, Signature:	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

The stamped drawing is as attachment to be added to the ISIR.



- In the Part / product drawing, in addition to the customer's numbered balloon dimensions/test features, other (critical) features agreed with the customer or dimensions required by the supplier to meet the specification should be stamped consecutively by the supplier (No duplicate number circles).
- The component drawing shall be included as attachment 02-1.

03 Technical Agreement (TA) or (Spec-) List

03 TA-/Spec.-List

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01	**Version/date:** 02/12.10.2020

Data is taken from the cover sheet

#	Name of the specification:	Document number:	Version number:	Designation (+document number) of the TA:	Remarks:
1	Cleanliness Spec. non optic EUV O_Module	1000711	3		
2	Procurement Spec. EUVL-mech. Components	1000951	4	TA 11934321	
3	labelling specification	1016250	2		
4	Logistic Specifications	2134-920/26	2		

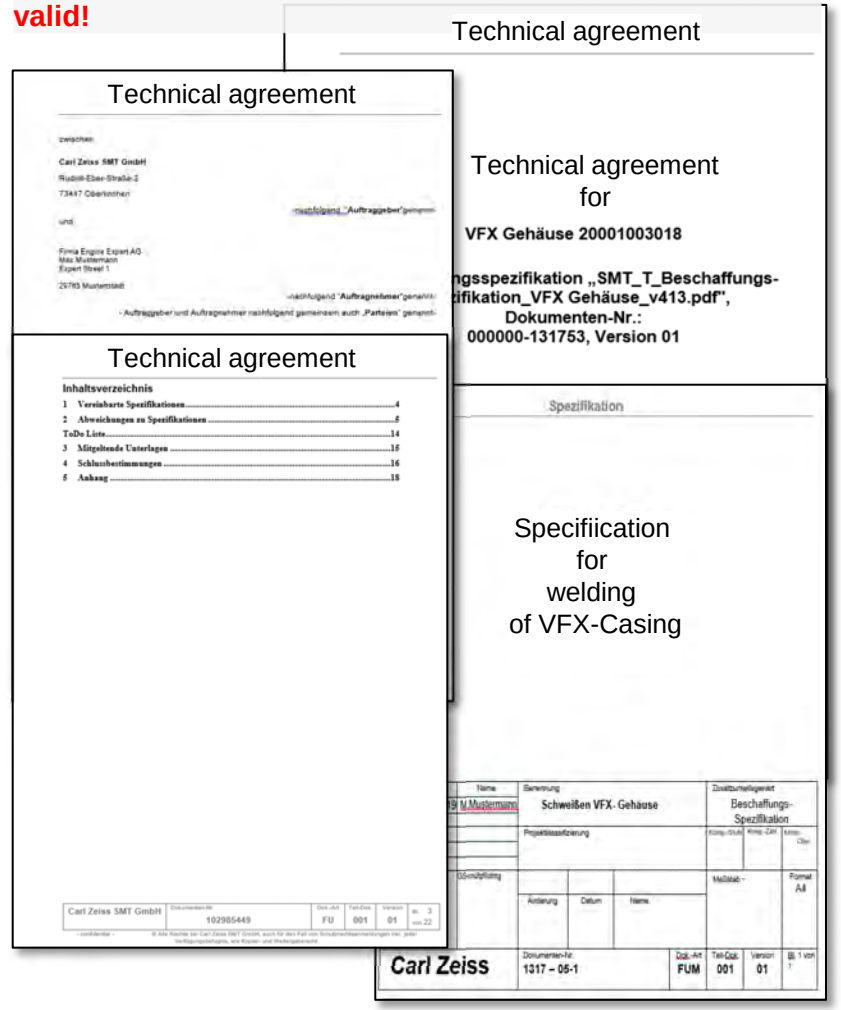
Summary/overview of the valid specifications. In case of deviations, the column "Designation (+Document No.) of TA" must be filled in with reference to the TA agreed with the customer. A comment for the reason of the deviation must be added in the Remarks column

Supplier confirmation	Customer confirmation	Customer decision
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name: Max Mustermann	Name:	
Department: Quality management ISIR	Department:	
Phone/Fax/E-Mail: 0049-711-2004-12	Phone/Fax/E-Mail:	
max.mustermann@supplierX.com		
Date, Signature: 15.10.2020	Date, Signature:	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

Side agreements in the form of emails/phone calls are not valid!



04a Measurement report - General

04 Measurement report-General

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation:	**Material number:**	**Drawing number:**	**Version/date:**
Sleeve (Hülse)	2020-101	2020-101/01	02/12.10.2020

Data is taken from the cover sheet

Ref.-No.	Nominal value	Measuring equipment:	Tolerance limits:		Measured values supplier					Evaluation		Remarks:	Reference to the specification:
			Min.- value/ LSL	Max. value/ USL	# 1	# 2	# 3	# 4	# 5	ok.	not ok.		
1	Diameter 4,3 +0,03	KMG 001/-12	4,3	4,33	4,31	4,31	4,31	4,31		X			Drawing attachment 02-1
2	Diameter 4,4 +0,05	KMG 001/-12	4,4	4,45	4,41	4,41	4,43	4,44		X			Drawing attachment 02-1
3	RA 0,8 through material removal	Surface measuring device 1139-004		0,8	0,77	0,77	0,78	0,78					Drawing attachment 02-1

To be filled in by the supplier. See description on the right side.

Supplier confirmation		Customer confirmation		Customer decision	
Remarks:		Remarks:		Approved	
				Approved with conditions, resampling	
				Rejected, resampling	
Name:	Max Mustermann	Name:			
Department:	Quality management ISIR	Department:			
Phone/Fax/E-Mail:	0049-711-2004-12	Phone/Fax/E-Mail:			
max.mustermann@supplierX.com					
Date, Signature:	13.11.2020	Date, Signature:			

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

- Result report of quantitative & qualitative characteristics with reference to the respective specification or drawing stamped by the supplier (e.g. consecutively numbered drawing characteristics, residual gas analysis (RGA)/electrical tests/ /pressure acceptance/leakage/ etc.)
- The measuring equipment used must be fully documented
- For dimensions, specify the nominal dimension, the upper and lower tolerance for each measured value
- The actual values are to be documented for each presented sample
- The evaluation i.O./ n.i.O. by comparing the actual values to target demands must be carried out by the supplier
- Test method, documentation of the measurement strategy, test equipment concept - structure must be documented and attached as an appendix
- The samples presented must be marked in such a way that the measurement results can be traced. In the cover sheet or the remarks field, the component ID is to be clearly assigned to the actual values in the measurement report

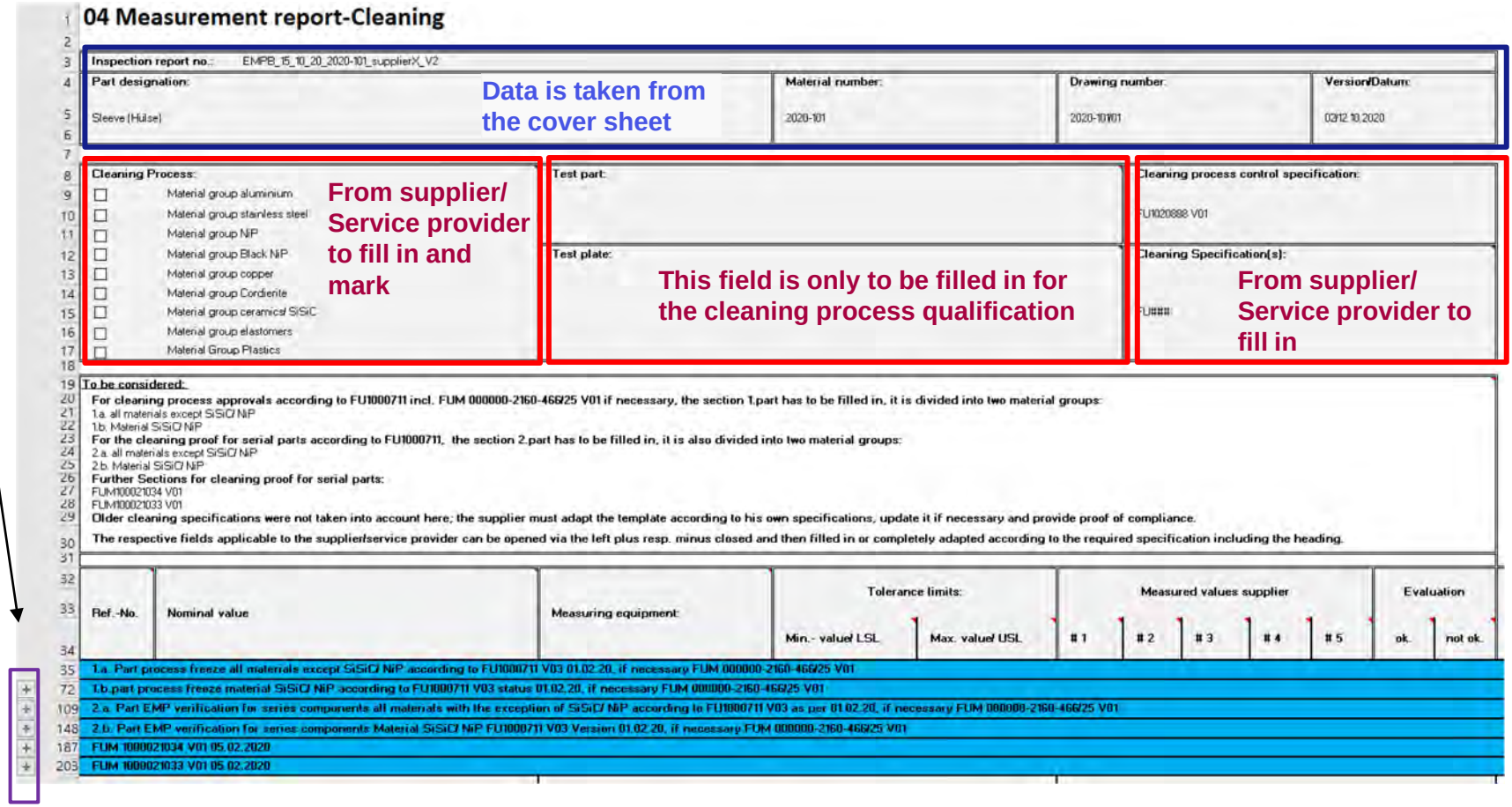
04b Measurement report - Cleaning

- The attachment Measurement Report_Cleaning is pre-filled according to cleaning specifications that have not yet been released, with a reference to the section of the specification in which the target requirements are to be found. The supplier/service provider must adapt or update the template himself according to his given specifications.

- The template has been subdivided according to specifications, according to customer requirements the respective verification fields can be opened via the left plus, filled in or completely customized according to the required specification incl. the heading see above reference.

- For cleaning process releases according to FU1000711 section 1.part has to be filled in, this is divided into two material groups
  - 1.a. all materials except SiSiC (silicon carbide)
  - 1.b. Material SiSiC (exception due to deviating XPS values to specification FU1000711)

- For the cleaning proof for serial parts according to FU1000711 the section 2.part has to be filled in, this is also divided into two material groups
  - 2.a. all materials except SiSiC
  - 2.b. Material SiSiC



04b Measurement report - Cleaning

139	8	Free of oil and grease Wipe test on 3x test components Residues on cloth = 0		0,000	0,000	/.	0,000	0,000	0,000	0,000	x
140	9	Free of liquids on 3x test components (e.g. blind holes) =0		0,000	0,000	/.	0,000	0,000	0,000	0,000	x
141	FUM 000000-2160-466/25 V01										
142	10	Tenax test on the cooling channel ≤50 ng low volatile organic substances		0,000	50,000	50,000	n.a.	n.a.	n.a.	n.a.	n.a.
143	11	≤500 ppm H2O		0,000	500,000	500,000	n.a.	n.a.	n.a.	n.a.	n.a.
144	12	Particle counter for airborne particles ≤200 Particle size class 0.3-25µm		0,000	200,000	200,000	n.a.	n.a.	n.a.	n.a.	n.a.
145											
146											
147											
148	2.b. Part EMP verification for series components Material SiSiC/ NP FU1000711 V03 Version 01.02.20, if necessary FUM 000000-2160-466/25 V01										
187	FUM 1000021034 V01 05.02.2020										
203	FUM 1000021033 V01 05.02.2020										

To be completed by the supplier/service provider

See description on the right side

Supplier confirmation		Customer confirmation	Customer decision
Remarks:		Remarks:	Approved
			Approved with conditions, resampling
			Rejected, resampling
Name:	Max Mustermann	Name:	
Department:	Quality management ISIR	Department:	
Phone/Fax/E-Mail:	0049-711-2004-12	Phone/Fax/E-Mail:	
max.mustermann@supplierX.com			
Date, Signature:	03.12.2020	Date, Signature:	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

- Result report of the quantitative and qualitative characteristics with reference to the respective specification
- The measuring equipment must be documented
- For dimensions, specify the nominal dimension, the upper and lower tolerance for each measured value.
- The actual values are to be documented for each presented sample
- The evaluation i.O./ n.i.O. by comparing the actual values to target demands must be carried out by the supplier.
- Test method, documentation of the measurement strategy, test equipment concept - structure must be documented and attached as an appendix.
- The samples submitted must be marked in such a way that the measurement results can be traced. In the cover sheet or the remarks field, the component ID is to be clearly assigned to the actual values in the measurement report

04b Measurement report - Cleaning

Ref.-No.	Nominal value	Measuring equipment:	Tolerance limits: Min.- value/ LSL	Tolerance limits: Max. value/ USL	Measured values supplier # 1	# 2	# 3	# 4	# 5	Evaluation ok.	Evaluation not ok.	Remarks:	Reference to the specification:
1.a. Part process freeze all materials except SiSiC/ NiP according to FU1000711 V03 01.02.20, if necessary FUM 000000-2160-466/25 V01													
1.b.part process freeze material SiSiC/ NiP according to FU1000711 V03 states 01.02.20, if necessary FUM 000000-2160-466/25 V01													
2.a. Part EMP verification for series components all materials with the exception of SiSiC/ NiP according to FU1000711 V03 as per 01.02.20, if necessary FUM 000000-2160-466/25 V01													
WE-P/ IG-I	Complies with FUM100021033 V01		Yes	Yes	Yes	Yes	Yes	Yes	Yes	X			
WE-P/ IG-I	Evaluation of cross-contamination risk by auxiliary materials from mechanical production Release on the basis of questionnaire = yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	X			
1a	XPS measurement on 3x Co-running samples - C ≤ 45 at. %	XPS-measuring lab	0,000	45,000	42,000	42,000	42,000	42,000	42,000	X			FU1000711 V03 S.6/29
1b	XPS measurement on 3x Co-running samples - F ≤ 0,3 at. %	XPS-measuring lab	0,000	0,300	0,100	0,100	0,100	0,100	0,100	X			FU1000711 V03 S.6/29
1c	XPS measurement on 3x Co-running samples - Cl ≤ 0,3 at. %	XPS-measuring lab	0,000	0,300	0,100	0,100	0,100	0,100	0,100	x			FU1000711 V03 S.6/29
1d	XPS measurement on 3x Co-running samples - S ≤ 0,5 at. %	XPS-measuring lab	0,000	0,500	0,100	0,100	0,100	0,100	0,100	x			FU1000711 V03 S.6/29
1e	XPS measurement on 3x Co-running samples - P ≤ 0,5 at. %	XPS-measuring lab	0,000	0,500	0,200	0,200	0,200	0,200	0,200	x			FU1000711 V03 S.6/29
1f	XPS measurement on 3x Co-running samples - Si ≤ 0,5 at. %	XPS-measuring lab	0,000	0,500	0,200	0,200	0,200	0,200	0,200	x			FU1000711 V03 S.6/29
1g	XPS measurement on 3x Co-running samples - N ≤ 1 at. %	XPS-measuring lab	0,000	1,000	0,400	0,400	0,400	0,400	0,400	X			FU1000711 V03 S.6/29
1h	XPS measurement on 3x Co-running samples - Na ≤ 0,5 at. %	XPS-measuring lab	0,000	0,500	0,000	0,000	0,000	0,000	0,000	x			FU1000711 V03 S.6/29
1i	XPS measurement on 3x Co-running samples - Ca ≤ 0,5 at. %	XPS-measuring lab	0,000	0,500	0,200	0,200	0,200	0,200	0,200	x			FU1000711 V03 S.6/29
1j	XPS measurement on 3x Co-running samples - Mg ≤ 0,5 at. %	XPS-measuring lab	0,000	0,500	0,200	0,200	0,200	0,200	0,200	x			FU1000711 V03 S.6/29
1k	XPS measurement on 3x Co-running samples - Mn ≤ 0,2 at. %	XPS-measuring lab	0,000	0,200	0,100	0,100	0,100	0,100	0,100	x			FU1000711 V03 S.6/29
1l	XPS measurement on 3x Co-running samples - Sn ≤ 0,1 at. %	XPS-measuring lab	0,000	0,100	0,000	0,000	0,000	0,000	0,000	x			FU1000711 V03 S.6/29
1m	XPS measurement on 3x Co-running samples - Zn ≤ 0,1 at. %	XPS-measuring lab	0,000	0,100	0,000	0,000	0,000	0,000	0,000	x			FU1000711 V03 S.6/29
1n	XPS measurement on 3x Co-running samples - In ≤ 0,1 at. %	XPS-measuring lab	0,000	0,100	0,000	0,000	0,000	0,000	0,000	x			FU1000711 V03 S.6/29
1o	XPS measurement on 3x Co-running samples - Pb ≤ 0,1 at. %	XPS-measuring lab	0,000	0,100	0,050	0,050	0,050	0,050	0,050	x			FU1000711 V03 S.6/29
2a	RGA on 3x test components - H2O ooS_H2O(= QH2O_actual /QH2O_nominal) ≤ 1	SLOF 1, Manufacturer XYZ	0,000	1,000	0,600	0,600	0,600	0,600	0,600	x			Specification value results from material and surface. (Reference Cleaning Master Data RSD)

To be filled in by the supplier/service provider

See description on previous slide!

04b Measurement report - Cleaning

2b	RGA on 3x test components - LHC ooS_LHC(= QLHC_is /QLHC_nominal) ≤ 1	SLOF 1, Manufacturer XYZ	0,000	1,000	0,900	0,900	0,900	0,900	0,900	x			Specification value results from material and surface. (Reference Cleaning Master Data RSD)
2c	RGA on 3x test components - HHC ooS_HHC(= QHHC_actual /QHHC_target) ≤ 1	SLOF 1, Manufacturer XYZ	0,000	1,000	0,900	0,900	0,900	0,900	0,900	x			Specification value results from material and surface. (Reference Cleaning Master Data RSD)
3a	ORK/ SCP measurements on 3x test components position XY with OF particle probe ORK ≤ 10; SCP ≤ 5	Compressed air driven DLS20	0,000	10/5	0,000	0,000	0,000	0,000	0,000	x		Area A	FU1000711 V03 S.7/29
3b	ORK/ SCP measurements on 3x test components position XY with OF particle probe ORK ≤ 10; SCP ≤ 5	Compressed air driven DLS20	0,000	10/5	0,000	0,000	0,000	0,000	0,000	x		Area A 90 degree offset	FU1000711 V03 S.7/29
3c	ORK/ SCP measurements on 3x test components position XY with OF particle probe ORK ≤ 10; SCP ≤ 5	Compressed air driven DLS20	0,000	10/5	0,000	0,000	0,000	0,000	0,000	x		Area B	FU1000711 V03 S.7/29
3d	ORK/ SCP measurements on 3x test components position XY with OF particle probe ORK ≤ 10; SCP ≤ 5	Compressed air driven DLS20	0,000	10/5	0,000	0,000	0,000	0,000	0,000	x		Area B 90 degree offset	FU1000711 V03 S.7/29
3e	ORK/ SCP measurements on 3x test components position XY with OF particle probe ORK ≤ 10; SCP ≤ 5	Compressed air driven DLS20	0,000	10/5	0,000	0,000	0,000	0,000	0,000	x		Inside diameter	FU1000711 V03 S.7/29
4	UV inspection on 3x test components with UV lamp Black Light ≤ 4 particles/dm² (photo documentation if particles remain, if not removable)		0,000	4,000	2,000	2,000	2,000	2,000	2,000	x			FU1000711 V03 S.9/29
5	White light inspection on 3x test components with white light lamp Bright Light ≤ 8 particles/dm² (photo documentation if particles remain, if not removable)		0,000	8,000	4,000	4,000	4,000	4,000	4,000	x			FU1000711 V03 S.9/29
6	UV inspection of 3x test components with UV lamp Black Light ≤ 2 fibers/dm² (photo documentation if particles remain, if not removable)		0,000	2,000	1,500	1,500	1,500	1,500	1,500	x			FU1000711 V03 S.9/29
7	UV/white light inspection on 3x test components with UV lamp Number of spots/ discolorations= 0		0,000	0,000	0,000	0,000	0,000	0,000	0,000	x			FU1000711 V03 S.6/29
8	Free of oil and grease Wipe test on 3x test components Residues on cloth = 0		0,000	0,000	/	0,000	0,000	0,000	0,000	X			FU1000711 V03 S.6/29
9	Free of liquids on 3x test components (e.g. blind holes) = 0		0,000	0,000	/	0,000	0,000	0,000	0,000	X			FU1000711 V03 S.6/29
FUM 000000-2160-466/25 V01													
10	Tenax test on the cooling channel ≤50 ng low volatile organic substances		0,000	50,000	50,000	n.a.	n.a.	n.a.	n.a.	n.a.			
11	≤500 ppm H2O		0,000	500,000	500,000	n.a.	n.a.	n.a.	n.a.	n.a.			
12	Particle counter for airborne particles ≤200 Particle size class 0.3-25µm		0,000	200,000	200,000	n.a.	n.a.	n.a.	n.a.	n.a.			

To be filled in by the supplier/service provider

See description on the slide before last!

If certain data are not relevant, the fields can be filled in with n.a. (= „not applicable“)

05 Conformity of material

05 Conformity of material

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020

Data is taken from the cover sheet

We hereby confirm that the materials of the samples submitted comply with the guidelines and regulations in the currently valid versions. The documents marked below must be signed and attached to the samples.

- ☑ Directive 2011/65/EC of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
- ☑ REACH regulation in the version valid at the time of submission. See: Link to REACH
- ☑ Required material test certificates/ material data sheets of the materials/ Process auxiliaries used

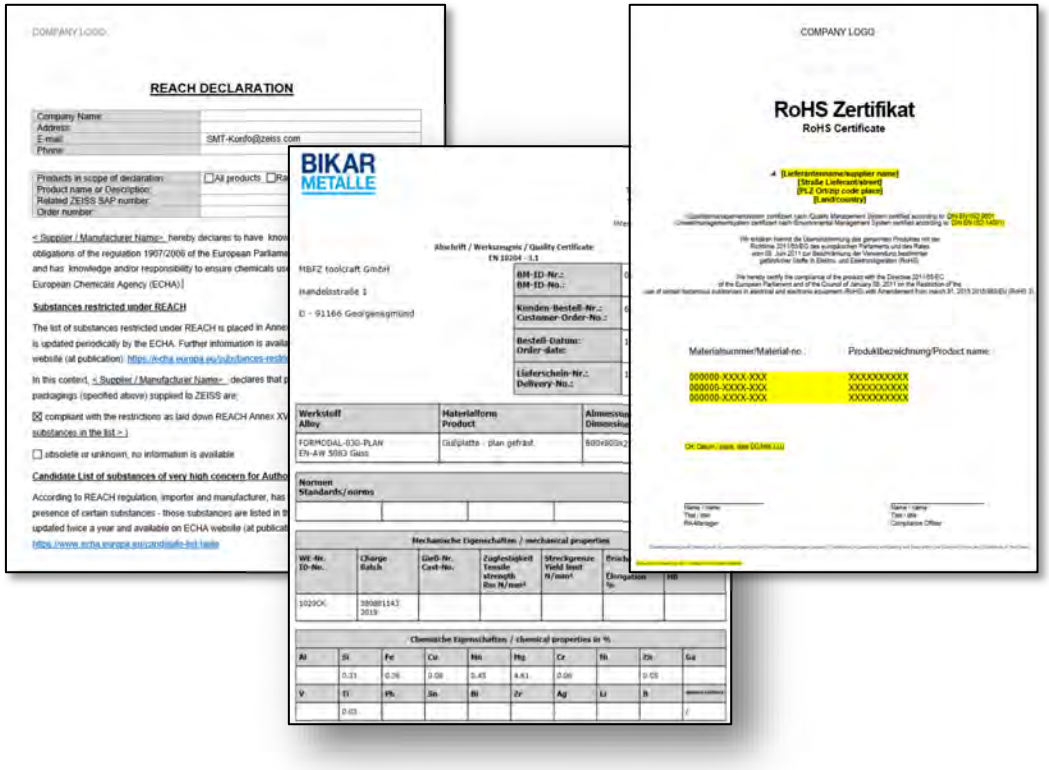
To be marked by the supplier and attachments to be included

Supplier confirmation	Customer confirmation	Customer decision
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name: Department: Phone/Fax/E-Mail: Date, Signature:	Name: Department: Phone/Fax/E-Mail: Date, Signature:	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

- Documentation of the specification-compliant, material-specific test results with reference to the requirements in the specification (material test certificates/material data sheets)



- Confirmation of full compliance with **REACH & RoHs** requirements with reference to the valid revision of the specification (revision level, date).

06 Control Plan (CP)
CP & Checklist

06 Control plan

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation:	Material number:	Data is taken from the cover sheet	Drawing number:
Sleeve (Hülse)	2020-101		2020-101/01
			Version/date: 02/12.10.2020

Part-/Proc. No.:	Process name/ Description of the working step:	Machine, apparatus, device:	Characteristics:			Classification of Special Characteristics:	Methods:					Reaction plan:	Responsible:
			No.	Product:	Process:		Product/process specifications:	Applied test system:	Sample: Size:	Sample: Frequency:	Control method:		
Incoming inspection													
1	Check of damage, Ident and completeness	visual inspection	1	Material-no., damage of packaging, completeness	./.	./.	Identity and completeness: delivery note / order; Damage: No outside	Visual	complete incoming goods	1 x per goods receipt	VA 01-0302 Goods receipt and incoming goods inspection	VA control of nonconforming material, stoppage of the goods, Complaints	Department für incoming goods
1.1.	Check of material according to test certificate	visual inspection	2	Material via material certificate	./.	SC	material certificate via incoming goods inspection plan Record of the certificate	visual	delivered material	2 x per goods receipt	VA 01-0302 Goods receipt and incoming goods inspection	VA control of nonconforming material, stoppage of the goods, Complaints	Department für incoming goods
Transport into production warehouse													
2	Transprtation of checked and released material into production warehouse	Pallet truck	1		Transport to the prescribed storage area	./.	Presciption of storage area analogous to goods receipt booking	Goods receipt slip	delivered material	2 x per goods receipt	AA-Internal Transportation _V04	VA control of nonconforming material, stoppage of the goods, Complaints	Department for logistics & transport
3	Removal from production warehouse and transport to order picking area	Fork lift / Pallet truck	2	Number according to internal order document		./.	Component-related work plan and route	Visual	Number according to internal order		AA-Internal Transportation _V05	VA control of nonconforming material, stoppage of the goods, Complaints	Department for logistics & transport
–	–	–		–	–					–	–		
Assembly													
6	Assembly of the single parts	Assembly device 2, inventory-number: 447263-374583	1	Completeness of the single parts for assembly, Function of the	Prescribed functional features after assembly	SC	Smooth running of the linear bearings analogue to the functional test	Spring scales inventory-number: 774536-845354	all	every assemled product	Work-Instruction 7854684-4875621 Inspectian plan: 78545624-7562412	VA control of nonconforming material, stoppage of the goods, Complaints	Department for assemby 1

CP extract as verification document to be provided by the supplier

Control plan (CP)

Clear chronological representation of all process steps of the product from goods receipt to delivery to the customer:

- Determination of the Special Characteristics
- Indication of the work and test instructions or reference thereto
- The CP checklist is to be completed by the supplier, if necessary enclose CP as verification document, otherwise make it available for inspection on site
- If you select "No", please give reasons in the comments field

06 Control Plan (CP)
CP & Checklist

06 Control plan

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation: Sleeve (Hülse)	Material number: 2020-101	Data is taken from the cover sheet	Drawing number: 2020-101/01 Version/date: 02/12.10.2020

1.	We hereby confirm that the Control plan (CP) for the production of submitted samples is available and can be viewed. The following criteria are considered in the CP:				
2.	The Control Plan refers to	☐ Prototype	☐ Pre-launch	☑ Serial production	
	To be marked by supplier, fill in remarks on document name/references and attach as annex			Yes / No	Remarks:
3.	The Control Plan contains or refers to a process flow diagram			☑ / ☐	
4.	The Control Plan contains all process steps including storage and transport starting with the receipt of purchased parts up to the delivery at the customer			☑ / ☐	
5.	The CP contains the description of all work and test steps of the entire process			☑ / ☐	
6.	The CP contains the details of the test steps (if necessary, reference to additional test instructions), taking into account:				
6.1	What is to be tested?			☑ / ☐	
6.2	How often is to be tested (test frequency)?			☑ / ☐	
6.3	How large is the sample?			☑ / ☐	

Checklist for checking all criteria in the CP

Clear chronological representation of all process steps of the product from goods receipt to delivery to the customer:

- Consideration of the Special Characteristics
- Indication of the work and test instructions or reference thereto
- The CP checklist is to be completed by the supplier, if "No“ is selected, please give reasons in the comments field

07 Inspection plans
Checklist & test plan

07 Inspection plans-checklist

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation: Sleeve (Hülse)	Material number: 2020-101	Data is taken from the cover sheet	Drawing number: 2020-10101 Version/date: 02/12.10.2020

		Yes	No	Remarks:
1.	Herewith we confirm that all inspection plans for the production of the scope of submitted samples are available and can be inspected on site.			
2.	The inspection plans refer to ☐ Prototype ☐ Pre-launch ☑ Serial production			
3.	Reference is made to the inspection plan to be applied in each case from the Control Plan (CP) and/or from the valid work instruction. This applies to all inspection plans.	☑	☐	
4.	The inspection plans are complete and plausible. They contain:			
4.1.	Comprehensible descriptions of the inspection tasks / inspection steps (if necessary, use of pictures / graphics)	☑	☐	
4.2.	The specifications of the test equipment to be used	☑	☐	
4.3.	The sample size(s) for the respective inspections / tests	☑	☐	
4.4.	The frequencies of the inspections/tests to be performed	☑	☐	
4.5.	The inspection-/test default values (nominal values / target values)	☑	☐	
4.6.	The tolerances to the default value (upper and lower dimension, if necessary)	☑	☐	
4.7.	Instructions on what to do if the default values are not reached	☑	☐	

Suppliers to be marked, comments on document names/notes to be filled in and attached as an appendix.

Checklist for checking all criteria in the inspection plan

Description of the tests to be performed:

- Nominal values (target values)
- Tolerances
- Testing frequency
- Test / measuring equipment to be used (if applicable, test equipment number....)
- Classification: Special features (SCs, CCs, SPC, A/B parts,...)
- Remarks / Notes
- if "No“ is selected, please give reasons in the comments field

07 Inspection plans
Checklist & test plan

07 Inspection plans-plan

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2							
Part designation: Sleeve (Hülse)		Material number: 2020-101				Drawing number: 2020-101/01 Version/date: 02/12.10.2020		
Working step:				Process-No.:				
No.	Characteristic:	Nominal value:	LSL:	USL:	Inspection frequency:	Test equipment:	Classification:	Remarks:
1	Diameter #5	D = 8	-0,1	0,1	First and last part of production line	measuring stick, Inventory-Nr. 774636-38647 alternatively measuring stick, Inventory-Nr. 774568-25478	SC	documentation as Special characteristics in ERP-system with serial-no.
2	Spring force	F = 1N	+/- 0,2N	-02N	every module	Spring balance Inventory-Nr. 774636-38647	SC	documentation as Special characteristics in ERP-system with serial-no.
Supplier confirmation				Customer confirmation			Customer decision	
Remarks:				Remarks:		Approved		
						Approved with conditions, resampling		
						Rejected, resampling		
Name:				Name:				
Department:				Department:				
Phone/Fax/E-Mail:				Phone/Fax/E-Mail:				
Date, Signature:				Date, Signature:				

Data is taken from the cover sheet

To be filled in by the supplier

To be filled in by the supplier

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

Inspection plan for a work step

Description of the tests to be performed:

- Nominal values (target values)
- Tolerances
- Testing frequency
- Test / measuring equipment to be used (if applicable, test equipment number....)
- Classification: Special features (SCs, CCs, SPC, A/B parts,...)
- Remarks / Notes
- if "No“ is selected, please give reasons in the comments field

08 Process- / Product FMEA

08 Process-/ Product FMEA

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation: Sleeve (Hülse)	Material number: 2020-101	Data is taken from the cover sheet	Drawing number: 2020-101/01 Version/date: 02/12.10.2020

1. We herewith confirm that the FMEA(s) required for the scope of delivery were carried out in accordance with the specified FMEA criteria. They can be inspected by the customer on site. The following criteria refer to the FMEA(s):

2. FMEA type(s) performed ☐ (System) FMEA Product ☑ (System) FMEA Process

To be marked by supplier, fill in remarks on document name/references and attach as annex

		Yes	No	Remarks:
3.	The FMEA(s) is/are up to date (last processing status not older than 3 months)	☑	☐	
4.	The FMEA(s) was/were created in teamwork with all necessary team members.	☑	☐	
5.	The FMEA(s) are checked regularly / periodically for up-to-dateness and adapted if necessary.	☑	☐	
6.	The functions, Failure Effects, Failure Modes and Failure Causes are comprehensibly and completely described in the FMEA(s).	☑	☐	
7.	The Risk Priority Number Limit (Limit-RPN) is defined and documented for the FMEA(s). Alternatively: Procedure analogous to VDA FMEA manual (edition 2019).	☑	☐	
8.	The evaluation catalogs for Severity, probability of Occurrence and probability of Detection are complete, plausible and suitable for the respective FMEA.	☑	☐	
9.	The evaluation catalogs were consistently used in the FMEA(s) to evaluate Severity, probability of Occurrence and Detection.	☑	☐	

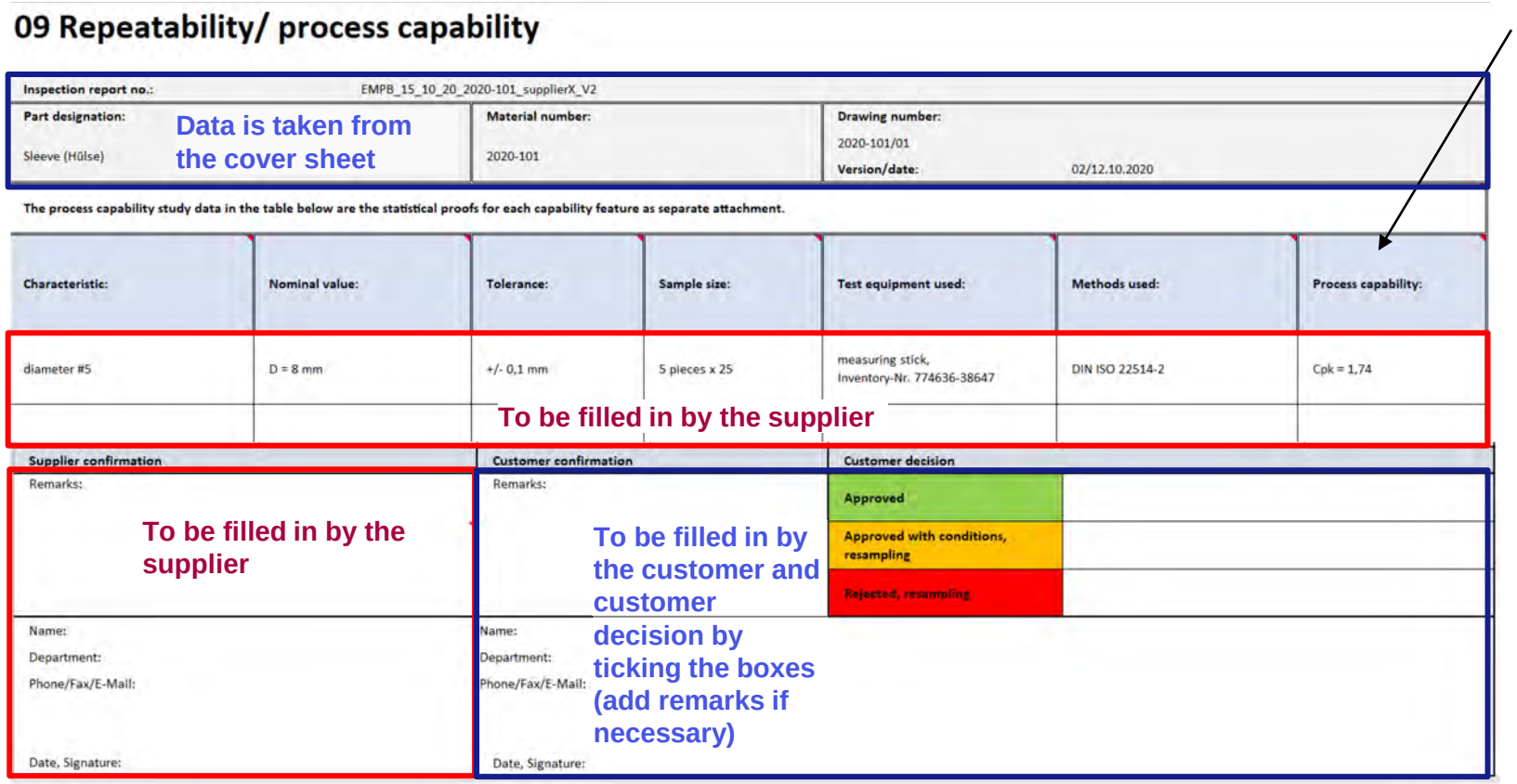
Checklist for checking all specified criteria of the FMEA must be submitted

FMEAs are viewed on site if necessary!

Components of an FMEA:

- FMEA in teamwork
- RPN- Limit defined (above this limit, measures for risk mitigation have to be applied)
- Evaluation catalog used defined and applied (severity, detection, occurrence)
- Measures for the mitigation of risks above the limit-RPN are defined
- Improvement measures have been implemented and effectiveness has been evaluated
- No measure with exceeded limit RPN and unapproved residual risk open
- Special characteristics are set
- Process flow diagram (for P-FMEA) is available
- Cycle for regular review of FMEA is defined (especially after complaints / deviation requests)
- The FMEA is understandable and comprehensible (no meaningless terms but clear descriptions)
- if "No“ is selected, please give reasons in the comments field

09 Repeatability/ process capability



09 Repeatability/ process capability

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation: Sleeve (Hülse)	Material number: 2020-101	Drawing number: 2020-101/01 Version/date: 02/12.10.2020

Data is taken from the cover sheet

The process capability study data in the table below are the statistical proofs for each capability feature as separate attachment.

Characteristic:	Nominal value:	Tolerance:	Sample size:	Test equipment used:	Methods used:	Process capability:
diameter #5	D = 8 mm	+/- 0,1 mm	5 pieces x 25	measuring stick, Inventory-Nr. 774636-38647	DIN ISO 22514-2	Cpk = 1,74

To be filled in by the supplier

Supplier confirmation	Customer confirmation	Customer decision
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name: Department: Phone/Fax/E-Mail:	Name: Department: Phone/Fax/E-Mail:	
Date, Signature:	Date, Signature:	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

Proof of capability for inspection characteristics or characteristics agreed with customers:

Cp, Cpk, Ppk, Cmk - Capability indices (e.g.: Cpk > 1.33, Cmk ≥1.67, Ppk ≥1.33) are defined and agreed with the customer

- Special characteristics, capability characteristics are defined and agreed with the customer
- SPC characteristics (SPC= Statistical Process Control) defined and agreed with customer (if applicable)
- Sample size, sample size defined and agreed with customer
- Calculation method (software, tools: Minitab, statistical software...) defined and agreed with customer
- Test for normal distribution proven, otherwise adjusted calculation.
- Cp, Cpk, Pp, Ppk, Cm, Cmk- capability indices (e.g.: Cpk > 1.33, Cmk ≥1.67, Ppk ≥1.33) determined and agreed with customer.
- Measures defined in the case of non-capable processes (100% check)
- Capability characteristics defined in the production control plan (if applicable, in inspection plans).
- Only capable test equipment may be used for capability measurements of the characteristics (MSA/ Gage R&R...).

10 Measurement system analysis

10 Measurement system analysis

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation:	**Material number:**		**Drawing number:**
Sleeve (Hülse)	2020-101		2020-101/01
			Version/date: 02/12.10.2020

Data is taken from the cover sheet

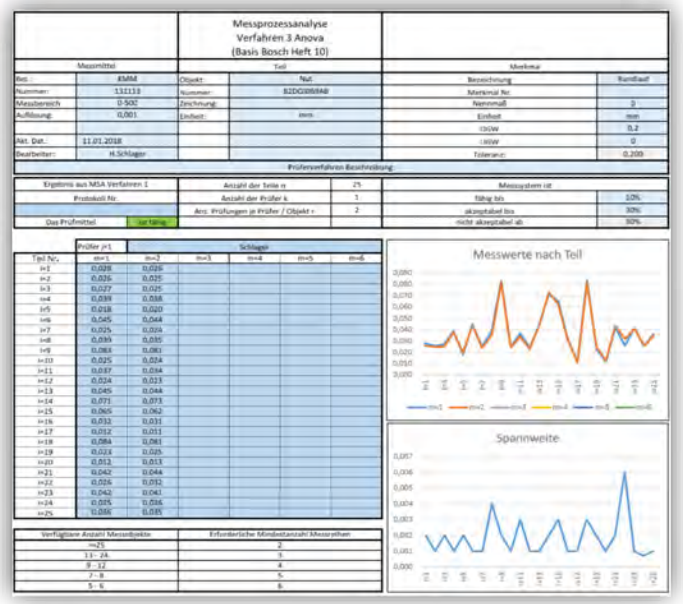
The statistical proofs for each test equipment, which is/was used for a measurement system analysis, are to be added as separate attachments to the data for the measuring system analysis in the table below.

Characteristic:	Nominal value:	Tolerance:	Sample size:	Test equipment used:	Methods used:	Gauge capability:
diameter #5	D = 8 mm	+/- 0,1 mm	3 variants, 3 Measurement series	measuring stick, Inventory-Nr. 774636-38647	MSA-method 2 analogous DC	Cpk = 1,77
Spring force	F = 1N	+/- 0,2N	3 variants, 3 Measurement series	Spring balance Inventory-Nr. 774636-38647	MSA-method 2 analogous DC	Cgk = 1,45

To be filled in by the supplier

The measurement system analysis proves that the test system used is capable of taking into account:

- Operator influence
- Repeatability
- Reproducibility
- Test equipment scattering in the specified range
- No use of non-capable test equipment (exception: use as test equipment for the testing of non-customer-relevant requirements)
- Use of verified and validated statistical software (e.g. Minitab, ...)
- Disturbance variables determined and taken into account in the test process
- Repetition of the MSA is defined and described in the CP
- Specifications or reference to standards (Gage R&R, VDA Volume 5, ...)



Example: Measuring process analysis Method 3 Anova

11 Process audits

11 Process Audits

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation:	**Material number:**	**Drawing number:**
Sleeve (Hülse)	2020-101	2020-101/01
		Version/date: 02/12.10.2020

Data is taken from the cover sheet

Process release by supplier:

No.	Process step:	Working instruction complete and plausible	Individual test- / inspection plans complete and plausible	Test equipment available and capable	Additional test devices for testing equipment available and capable	Additional production devices and tools are available and capable	Machine(s) and equipment is qualified and capable	Inspection and maintenance plans available	Working environment is ergonomically suitable	Workplace meets occupational safety requirements	Employees trained and proofs available	Process(es) audited . There are no open audit measures.	Name of responsible person, who released the process	Release date
1	Check of incoming goods	X	X	X	-/-	-/-	-/-	-/-	X	X	X	X	Lionel Messi	15.10.2020
2	Picking of parts	X	X	-/-	-/-	-/-	-/-	-/-	X	X	X	X	Christiano Ronaldo	16.10.2020
3	Assembly, area 1	X	X	X	X	X	-/-	X	X	X	X	X	Mats Hummels	16.10.2020

To be filled in by the supplier

The **supplier must accept and approve his own** and **his suppliers' processes in advance of the ISIR, evaluate and document them himself** according to the individual stages of **product and process development.**

- The planning, development and implementation of controlled and capable processes is an essential part of the activity for the start-up of new or modified products. In doing so, the execution of these activities is supported by documents and records. This includes, for example, process FMEA, a control plan, work instructions, inspection plans, capability demonstrations, inclusion of sub-suppliers in audit planning.
- The proofs will be sent to the customer according to the requirements to the ISIR cover sheet if necessary
- In addition, SMT (customer) can check the supplier's approval process at an on-site appointment (e.g. process inspection at the supplier's premises, process audit) if required and notified in advance.
- Objective:
  I. SMT verifies conformance to process specifications. (planning, realization, if necessary sample check)
  II. process inspection to check the conformity to the qualification and verification by the supplier

12 Sub-supplier qualification

12 Sub-supplier qualification

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2		
Part designation:	**Material number:**		**Drawing number:**
Sleeve (Hülse)	2020-101		2020-101/01
			Version/date: 02/12.10.2020

Data is taken from the cover sheet

It is hereby confirmed that the scope of suppliers and sub-suppliers for the production of the samples has been monitored and qualified and that the underlying specifications have been met. The cover sheets with the initial sampling approvals issued by the suppliers and sub-suppliers are enclosed as attachments where applicable. The scope of monitoring supplier / subcontractor performance in the supply chain to produce the samples submitted is shown in the table below:

No.	Supplier name:	Tier-n:	Delivery item	Tested safeguards/verification measures for Tier 2 to Tier n:										
				Incoming goods inspection plan:	CoC:	QAA	FMEA:	Control Plan	Supplier-Audit	Final inspection	Cpk:	Cgk:	ISIR- Status	Remarks:
1	Best goods ever Ltd.	2	steel ST 37	X	X	-/-	-/-	-/-	-/-	X	-/-	-/-		Released and stable steel-supplier, no special ISIR necessary
2	McDonalds GmbH	2	Guide carriage						X	X	1,48	1,89	F-R	Sub-part for Assembly,

To be filled in by the supplier

CoC = Certificate of Conformity
QAA = Quality Assurance Agreement
F-R = Released
FA – RO = Released with conditions
A – R = Rejected
-/- = inapplicable

Tier 1 is submitting supplier for ISIR, further subcontractors Tier 2 to Tier n.
Ex. Met (X) or not done (-/-) in ISIR status Released (F-R) ...

- With the sampling of the series components, the supplier confirms that all components/materials/processes of his sub-suppliers are monitored, qualified and approved according to the required specifications.

- Proof:
  - Release cover sheets/ CoC proofs of sampling of its subcontractors/service providers will be enclosed to the customer as an attachment, if applicable.
  - If applicable, inspection of the sampling concept, component classification, sampling criteria of the subcontractors/service providers Approval process

13 Measuring equipment list

13 Measuring equipment list

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2							
Part designation: Sleeve (Hülse)		**Material number:** 2020-101			**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020			
The following list of test equipment contains all test equipment for the production of the submitted samples:								
Pos.	**Inventory number:**	**Test equipment used:**	**Inspection equipment monitoring:**	**Calibration interval:**	**Next calibration:**	**Resolution:**	**Accuracy:**	**Capability [Cgk]:**
1	774568-25478	Measuring stick	yes	yearly	02.05.2021	0,01 mm	0,1mm	Cgk = 1,77
2	774636-38647	Measuring stick	yes	yearly	21.08.2021	0,01 mm	0,1mm	Cgk = 1,60
3	774536-845354	Spring balance	yes	6 months	12.08.2021	0,01N	0,1N	Cgk = 1,45

Data is taken from the cover sheet

To be filled in by the supplier

Measuring device identification and name must be associated with Control Plan and Verification of compliance with the test- / inspection equipment

No expired test equipment

The inspection and test equipment list is intended to provide an overview of the measuring and test equipment used (inspection and test equipment planning, CP, inspection plan, measurement system analysis) for the production of series components or to ensure that the required specifications are met in the series process.

Contents of the test equipment monitoring:

- Identification of the test-/ measuring equipment by means of inventory number
- Defined calibration intervals
- Next calibration to be performed
- Resolution of the measuring device
- Accuracy of the measuring device
- Test- / inspection equipment capability

14 Parts history table

14 Parts history table

Inspection report no.: EMPB_15_10_20_2020-101_supplierX_V2		
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020

Data is taken from the cover sheet

Pos.:	ISIR:	Other samples:	Reason for submission	Referenced specification:	Version:	Report No. Zeiss/ Report No. Supplier:	Report date:	Customer decision
1		X	Other Samples (Prototypes)	00000-2019-000	01/12.10.2019	EMPB_07_08_2018_2020-101_supplierX_V04	07.08.2018	F-R
2	X		Initial Sample Inspection	00000-2019-000	01/12.10.2019	EMPB_15_10_2020_2020-101_supplierX_V01	25.11.2019	F-R
3	X		Re-Sampling, Change of specification	0000		EMPB_15_10_2020_2020-101_supplierX_V02	19.10.2020	F-R

To be filled in by the supplier

- Enables traceability of (process/product) changes as well as sampling history from the beginning of the ISIR- submissions
- From shipping of the first samples (other samples, initial samples)
- Other samples are samples from near-series processes that do not yet fully correspond to the series processes, e.g. pre-series samples. Other samples must be sent with at least the following documents: ISIR cover sheet with the marking at "Test report other samples", a test report issued by the supplier. stamped drawing, measurement report (part a & b) and attachment #15 Serialization/Traceability (Scope of documentation to be determined on a part-specific basis)

15 Serialization & Traceability

15 Serialization & Traceability

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020

Data is taken from the cover sheet

We hereby confirm the traceability of the sample and series parts as agreed on the basis:

- ☐ the batch number
- ☑ the serial number
- ☑ the marking of the production date on the part

Up to identification level

- ☑ the traceable goods receipt of parts and materials in the incoming inspection
- ☑ the material test certificates
- ☐ the test certificates
- ☑ the final inspection plan valid for the product with test values including releasing person
- ☑ the test-/inspection plans and test data valid for the product

To be marked by the supplier and attachments to be included

Supplier confirmation	Customer confirmation	Customer decision
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name: Department: Phone/Fax/E-Mail:	Name: Department: Phone/Fax/E-Mail:	
Date, Signature:	Date, Signature:	

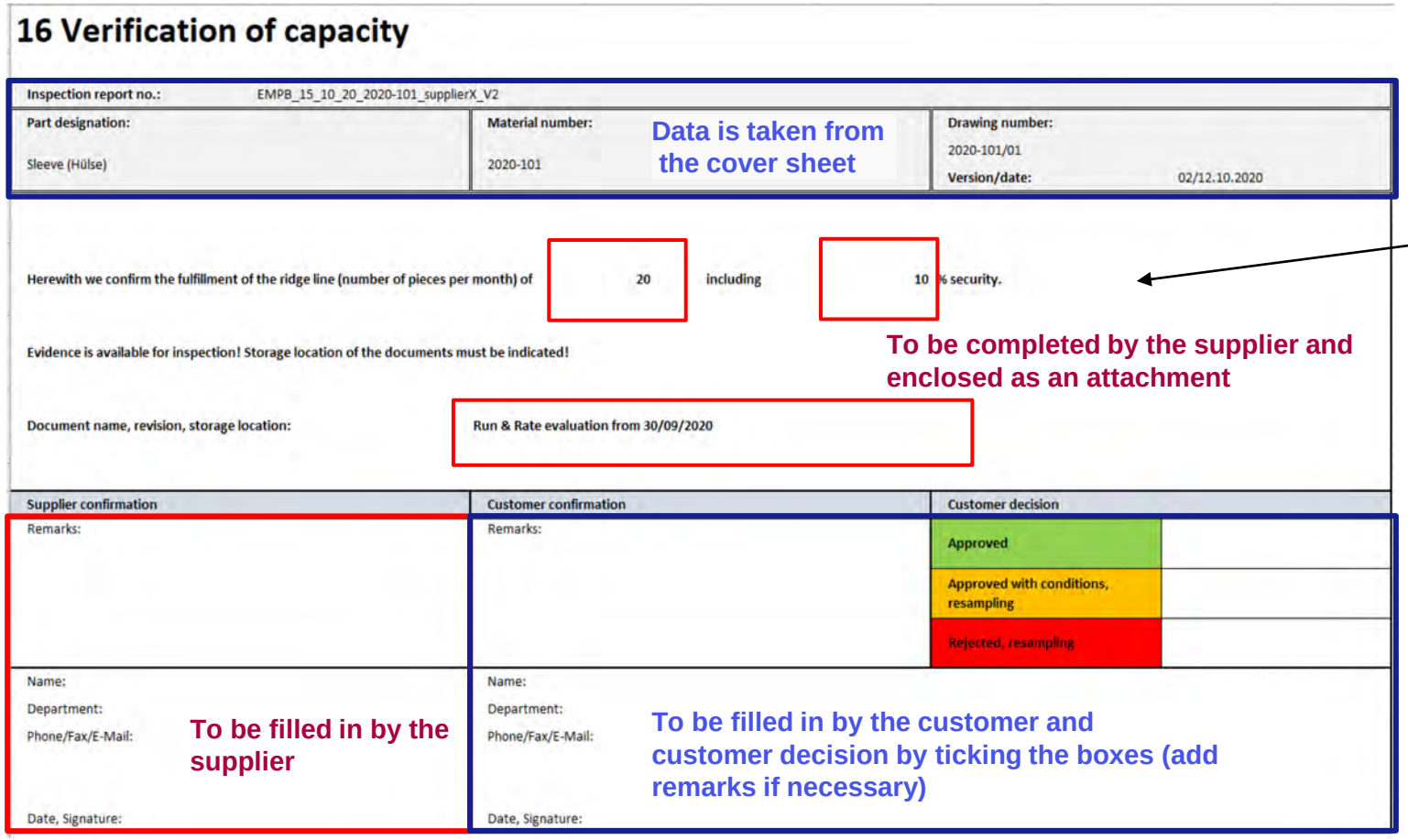
To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

Tick how traceability was agreed upon

All series parts must be marked to ensure its traceability

16 Verification of capacity



16 Verification of capacity

Inspection report no.: EMPB_15_10_20_2020-101_supplierX_V2		
Part designation: Sleeve (Hülse)	Material number: 2020-101	Drawing number: 2020-101/01 Version/date: 02/12.10.2020

Data is taken from the cover sheet

Herewith we confirm the fulfillment of the ridge line (number of pieces per month) of 20 including 10 % security.

Evidence is available for inspection! Storage location of the documents must be indicated!

To be completed by the supplier and enclosed as an attachment

Document name, revision, storage location: Run & Rate evaluation from 30/09/2020

Supplier confirmation	Customer confirmation	Customer decision
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name: Department: Phone/Fax/E-Mail: Date, Signature:	Name: Department: Phone/Fax/E-Mail: Date, Signature:	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

Indication of the ridge line in pieces per month

- In the ISIR, the requested capacity (ridge line) of the components is confirmed, taking into account the production under series conditions
- A plausible emergency plan for the makeshift production of the parts under emergency conditions is to be demonstrated, e.g. on site. For this purpose, the document is to be submitted as a separate attachment or evaluated by the customer in a process verification - / process validation / process audit.

17 Test data management

17 Test data management

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation: Sleeve (Hülse)	Material number: 2020-101	Drawing number: 2020-101/01 Version/date: 02/12.10.2020

Data is taken from the cover sheet

We hereby confirm compliance with the valid specifications / guidelines for test data management according to the following documents

Document number	Version	Designation
1000951	4	Procurement Spec. EUVL-mech. Components

The relevant specification has to be filled in by the supplier

The following system was used for data transmission:

- [ ] E-Mail "Lieferantendaten@smt.zeiss.com"
- [x] DESC (Data Exchange SC)

To be marked, completed and attached by the supplier

The following data formats were sent to Carl Zeiss SMT:

- [x] XML- Format
- [ ] JSON-Format
- [ ] FET format (Feature File/ calculation basis / raw data - Calypso)
  - [ ] FET format (Feature File/ calculation basis / raw data - Calypso)
  - [ ] CHR format (measurement results according to test results of the Calypso test plan)
  - [ ] HDR format (protocol header information- Calypso)
  - [ ] PDF
- [ ] Binary data e.g. images, PDF, Excel, other formats

The following criteria of the specification have been met:

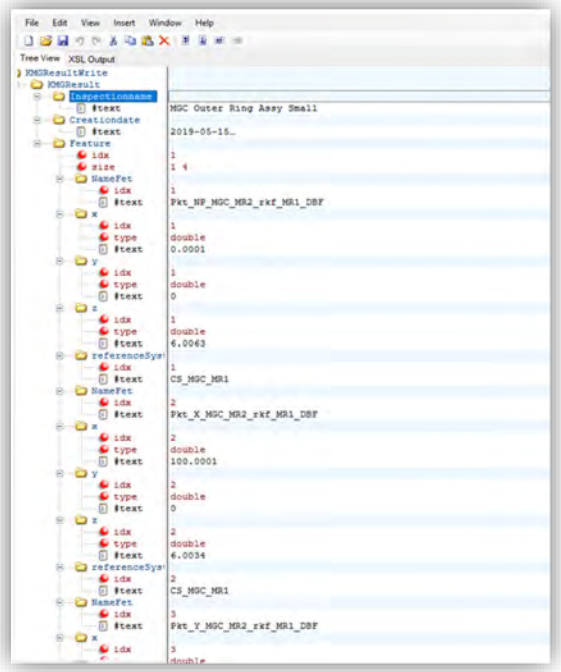
- [x] The subject line of the email follows the naming convention in the specification (E-Mail System)
- [x] The file names of attachments follow the naming convention of the specification (E-Mail System)
- [x] The data format corresponds in all points to the specifications (E-Mail/DESC System)
- [ ] ASBuilt history has been submitted (DESC-System)

Supplier confirmation	Customer confirmation	Customer decision	
Remarks:	Remarks:	Approved	
		Approved with conditions, resampling	
		Rejected, resampling	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

- Ensure that data formats, content, provision periods, data transmission interfaces, etc. are clarified and transmitted in series without being requested.
- It can be measured values, parameters, analysis results, etc., which the customer needs for further processing



Example: Excerpt data transfer

18 Additional verifications
Example packing

18 Additional verifications

Inspection report no.:	EMPB_15_10_20_2020-101_supplierX_V2	
Part designation: Sleeve (Hülse)	**Material number:** 2020-101	**Drawing number:** 2020-101/01 **Version/date:** 02/12.10.2020

Data is taken from the cover sheet

We hereby confirm that the submitted samples corresponds to the packaging specification valid at the time of the sample presentation

To be completed individually by the supplier and attached as an appendix

Supplier confirmation	Customer confirmation	Customer decision
Remarks:	Remarks:	Approved
		Approved with conditions, resampling
		Rejected, resampling
Name: Department: Phone/Fax/E-Mail:	Name: Customer confirmation Phone/Fax/E-Mail:	
Date, Signature:	Date, Signature:	

To be filled in by the supplier

To be filled in by the customer and customer decision by ticking the boxes (add remarks if necessary)

- **Template product specific freely definable example for e.g. packing, ...**
- Proof of suitability load carrier and packaging
- Tool list
- Cleanliness concept
- ESD protection concept
- Plant and hall layout plans for production
- Qualification and competence of employees

Release/change history

Change no.	Date	Change	Creator	Freigeber
V01	05.11.2020	First edition	Isabell Mangold	Dr. Jolanta Olkowska Oetzel
V02	11.12.2020	Second edition: Revision of design, text and attachment #13 image to "ISIR-EMP_template_multilingual_V02".	Isabell Mangold	Dr. Jolanta Olkowska Oetzel
V03	23.06.2021	Third edition: Linguistic adjustments (after training)	Markus Essert	Dr. Jolanta Olkowska Oetzel

Seeing beyond