



General Guidelines for a Successful Inspection

Presentation by VQC Team

SUMMARY

Objective:

To improve “First Time Right” with structured guidelines of Xometry’s quality requirements.

To avoid delays from approving shipments due to documentation submittals.

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ITAR regulates three types of technical data:

- Information for the design, development, manufacturing of defense articles, including blueprints, drawings, documentation, etc...
- Classified information about the defense articles and defense services listed above.
- Software directly related to defense articles.

What does this mean to you?

- ITAR data is any data that can be used to create an ITAR part.
- This includes:
 - CAD/CAM files (either digital or printed) OR screenshots of those files
 - A part file drawing/pdf OR a screenshot of a drawing
 - Inspection Reports
 - Physical ITAR Parts OR Pictures of ITAR Parts



When a Xometry PO calls for DFARS-compliant Material Certs:

- For all materials, we are requesting that the mill (metal) or melt (plastics) origin is a country on the DFARS approved list below.
- All certifications should state compliance explicitly. If a certificate does not state DFARS, but is by matter-of-fact, contact vqc@xometry.com with the certificate to confirm approvals before manufacturing that may inhibit the ability to return the purchased material.



DFARS qualifying countries (Per DFARS 225.872-1) include:

- Australia
- Canada
- Egypt
- France
- Israel
- Latvia
- Norway
- Slovenia
- Switzerland
- Austria
- Czech Republic
- Estonia
- Germany
- Italy
- Luxembourg
- Poland
- Spain
- Turkey
- Belgium
- Denmark
- Finland
- Greece
- Japan
- Netherlands
- Portugal
- Sweden
- United Kingdom of Great Britain and Northern Ireland

Certifications

When required must comply with:

- Certification Of Conformance
- Hardware Certifications / Traceability
- Material Certification / Traceability
- Standard Material Certification
- Material type, temper and spec
- ITAR/EAR Registration
- ROHS/REACH compliance
- NADCAP compliance

****Note:** If any document/certification **DOES NOT Comply when any of the above are required**, please inform the **Case Management** as we **must** have **written approval** to omit the request by the **customer**.

Certification of Conformance(CoC) Certification Requirements

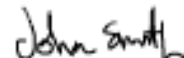
- A **Digital Copy** must be **uploaded** to portal as a pdf.
- A **Physical Copy** must be **shipped** with the parcel

Xometry
6116 Executive Blvd Ste. 800 North Bethesda, MD 20852

Certificate of Conformance

This is to certify that the products and/or services contracted by the purchase order have been manufactured, processed, inspected, and tested in accordance with all requirements of the purchase order and specified on referenced documents are fully acceptable and in complete conformance to all purchase order requirements.

Xometry certifies to RoHS/REACH compliance.

Customer Name:	Smith Machining		
Customer PO #:	N/A	Customer PO Line #:	N/A
Customer Part Name:	047C2FF_converted_r_0		
Customer Serial #:	123		
Customer Revision #:	123		
Xometry Order ID:	04622-1513A	Xometry Quoted Part ID:	019A141
Material:	123		
Material Lot #:	123		
Finish:	Standard		
Quantity:	10		
Notes:	N/A		
Meredith Smith			123
Printed Name			Title
			9/13/2023
Signature - Signed on behalf of Xometry			Date

Must declare the material, temper and spec if one is listed on the drawing

When 6061 – T6 is required, please list the exact temper as it appears on the material cert (T651, T6511 or T6)


Must declare the Finish used. This will include the finish and spec as listed on the finish cert. If no finish is required, please list "standard" as the finish for bare parts.

If **Material Lot** is present, the customer has **requested a Standard Material Certification**

Material Lot must be filled out. **If the material lot # is not listed on the cert**, please use either the heat number, batch number, resin number or cast number.

Certification of Conformance (CoC) Administrative Requirements

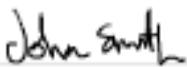
- A **Digital Copy** must be **uploaded** to portal as a pdf.
- A **Physical Copy** must be **shipped** with the parcel


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Customer Name:	Smith Machining		
Customer PO #:	N/A	Customer PO Line #:	N/A
Customer Part Name:	047C2FF_converted_r_0		
Customer Serial #:	123		
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Xometry Order ID:	04622-1513A	Xometry Quoted Part ID:	019A141
Material:	123		
Material Lot #:	123		
Finish:	Standard		
Quantity:	10		
Notes:	N/A		
Meredith Smith		123	
Printed Name		Title	
		9/13/2023	
Signature - Signed on behalf of Xometry		Date	

Must declare the Serial numbers for the parts if required by the customer
example (001-006)
If no S/N's are required, please enter N/A

Must declare the customer drawing revision number. If no revision number is on the print, please list **N/A**.

This is your title with your company.

Month, day and year

Please print your first and last name here.

Must be signed by you, the partner

CoC on Partners letterhead (for Material Traceability)

- For material traceability requirements, a partner letterhead CoC is required. Once the Xometry CoC is completed, the Xometry CoC may be used to create a partner CoC. If utilizing the Xometry CoC please make the following amendments.

Replace the Xometry letterhead with the **partner letterhead**.

Replace the Xometry name with the **partner name**.

Change **customer name** to **Xometry**

The image shows a Xometry Certificate of Conformance form. At the top, the Xometry logo and address (6116 Executive Blvd Ste. 800 North Bethesda, MD 20852) are present. The title is 'Certificate of Conformance'. Below this is a paragraph certifying that products and services meet purchase order requirements. A note states 'Xometry certifies to RoHS/REACH compliance.' The form contains several fields: 'Customer Name: Smith Machining', 'Customer PO #: N/A', 'Customer PO Line #: N/A', 'Customer Part Name: 047C2FF_converted_r_0', 'Customer Serial #: 123', 'Customer Revision #: 123', 'Xometry Order ID: 04622-1513A', 'Xometry Quoted Part ID: 019A141', 'Material: 123', 'Material Lot #: 123', 'Finish: Standard', 'Quantity: 10', and 'Notes: N/A'. At the bottom, there is a signature line for 'Meredith Smith' with the number '123' next to it, and a date '9/13/2023'. The signature is handwritten and reads 'John Smith'. The text 'Signature - Signed on behalf of Xometry' and 'Date' are printed below the signature line. Three blue callout boxes with arrows point to specific areas: one to the Xometry logo, one to the 'Customer Name' field, and one to the 'Meredith Smith' name.

Customer Name:	Smith Machining		
Customer PO #:	N/A	Customer PO Line #:	N/A
Customer Part Name:	047C2FF_converted_r_0		
Customer Serial #:	123		
Customer Revision #:	123		
Xometry Order ID:	04622-1513A	Xometry Quoted Part ID:	019A141
Material:	123		
Material Lot #:	123		
Finish:	Standard		
Quantity:	10		
Notes:	N/A		
Meredith Smith			123
Printed Name			Title
<i>John Smith</i>			9/13/2023
Signature - Signed on behalf of Xometry			Date

Material Certifications & Material Traceability When Required

Standard Material Cert will consist of the material type, temper, specification, and the Material Test Report from the MILL with the heat lot number. Each cert must be reproduced completely (if the cert states four pages, all four pages are required regardless of the content). Each document must be fully legible.

Mill Material Cert will consist of the material type, the heat lot number, the chemical breakdown, and the material test report data.

Plastic material cert will consist of certification showing the plastic name, material type, and class if applicable, any applicable specifications, and resin lot number.

Material Traceability

For material traceability, the documentation shall start with **MILL** that consists of the chemical breakdown and physical Material Test Report. Material Chain of Custody (whenever material changes hands) must be provided when material traceability is required. Each certification shall have the same material **heat lot Number**. Each cert must be reproduced completely (if the cert states four pages, all four pages are required regardless of the content). Each document must be fully legible.

The Partner will also need to provide the C of C on the company letterhead for material traceability.

A Xometry CoC and a partner CoC are required for material traceability.

[Xometry Community Standard Material Cert Link](#)

Material certifications and Material Traceability

NORTH AMERICAN STAINLESS
METALLURGICAL TEST REPORT

Customer: 8009 884
Order: 41800000
Material: 304 SS

Material: 304 SS
Quantity: 10000 LBS
Lot: 41800000

Chemical Analysis Table:

Element	Analysis	Specification
C	0.025	0.030
Mn	0.030	0.035
P	0.005	0.010
S	0.002	0.003
Fe	100.000	100.000

Physical Properties Table:

Property	Value	Specification
Yield Strength	115.00	110.00
Tensile Strength	115.00	110.00
Elongation	48.75	40.00

Inspector: Charles Higgins
Date: 4/2/2021

North American Stainless sold to Ryerson, Inc. 304 SS Lot# A61E

RYERSON
Delivery Receipt

Customer: 8009 884
Order: 41800000
Material: 304 SS

Material: 304 SS
Quantity: 10000 LBS
Lot: 41800000

Customer Signature: [Signature]

Ryerson, Inc. sold to Metal Bars, Inc. 304 SS Lot# A61E

RYERSON
CERTIFICATE OF CONFORMANCE

Customer: 8009 884
Order: 41800000
Material: 304 SS

Material: 304 SS
Quantity: 10000 LBS
Lot: 41800000

Inspector: [Signature]
Date: 4/2/2021

Metal Bars, Inc.
PACKING LIST

Customer: 8009 884
Order: 41800000
Material: 304 SS

Material: 304 SS
Quantity: 10000 LBS
Lot: 41800000

Inspector: [Signature]
Date: 4/2/2021

Metal Bars, Inc. sold to Fastlane Precision 304 SS Lot# A61E

Xometry
Certificate of Conformance

Customer: 8009 884
Order: 41800000
Material: 304 SS

Material: 304 SS
Quantity: 10000 LBS
Lot: 41800000

Inspector: Charles Higgins
Date: 4/2/2021

FAST LANE PRECISION
Certificate of Conformance

Customer: 8009 884
Order: 41800000
Material: 304 SS

Material: 304 SS
Quantity: 10000 LBS
Lot: 41800000

Inspector: [Signature]
Date: 4/2/2021

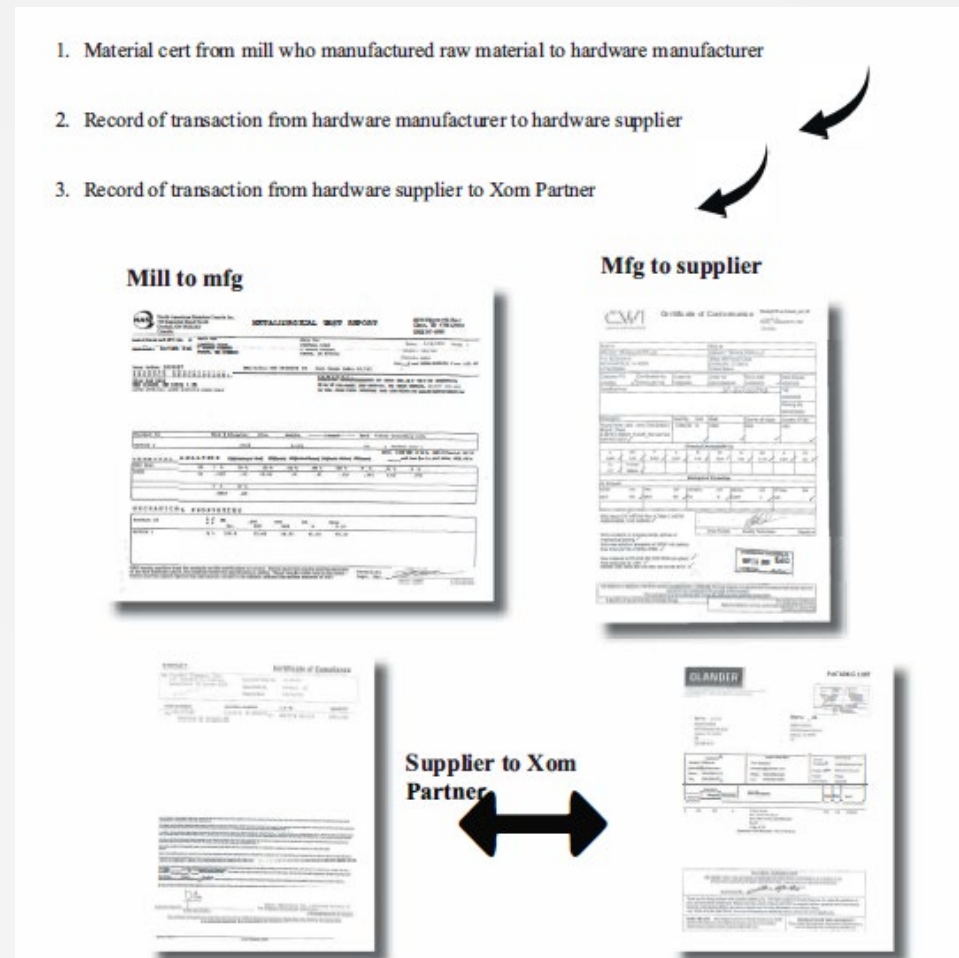
For material traceability, we need to see documentation starting with the mill that consists of the **chem/physical document** and a **document for each time the material was sold/bought** ending with the documentation showing you as the final buyer. Each document will list the material type and material lot number. When properly put together, it will kind of resemble a family tree.

In this example, the material type is 304 SS and material lot number is A61E. North American Stainless sold to Ryerson, Inc. Ryerson, Inc sold to Metal Bars, Inc., Metal Bars, Inc sold to Fastlane Precision who is the partner. The partner completed the Xometry CoC and made a CoC on their own company letterhead to complete the material traceability. **All documents contain the same material type and material lot.**



Hardware Traceability

- Proof of purchase/CoC from the Hardware supplier and all touchpoints back to the mill that produced the raw material need to be shown. Please be sure to request the chemical and physical certification with full traceability from the hardware vendor when purchasing.
- This would show the purchase from the mill that produced the raw material to the hardware manufacturer, hardware manufacturer to hardware supplier, hardware supplier to the Xometry Partner in the same way that material traceability is followed.



GD&T Typeface

Xometry uses the below typeface for the engineering characters on inspection reports in accordance with Y14.5M. Below is a link to download the font characters to ensure they output properly on all Inspection Reports.

[Y14.5M FONT](#)

GD&T Font Downloading instructions

Download and Install Instructions:

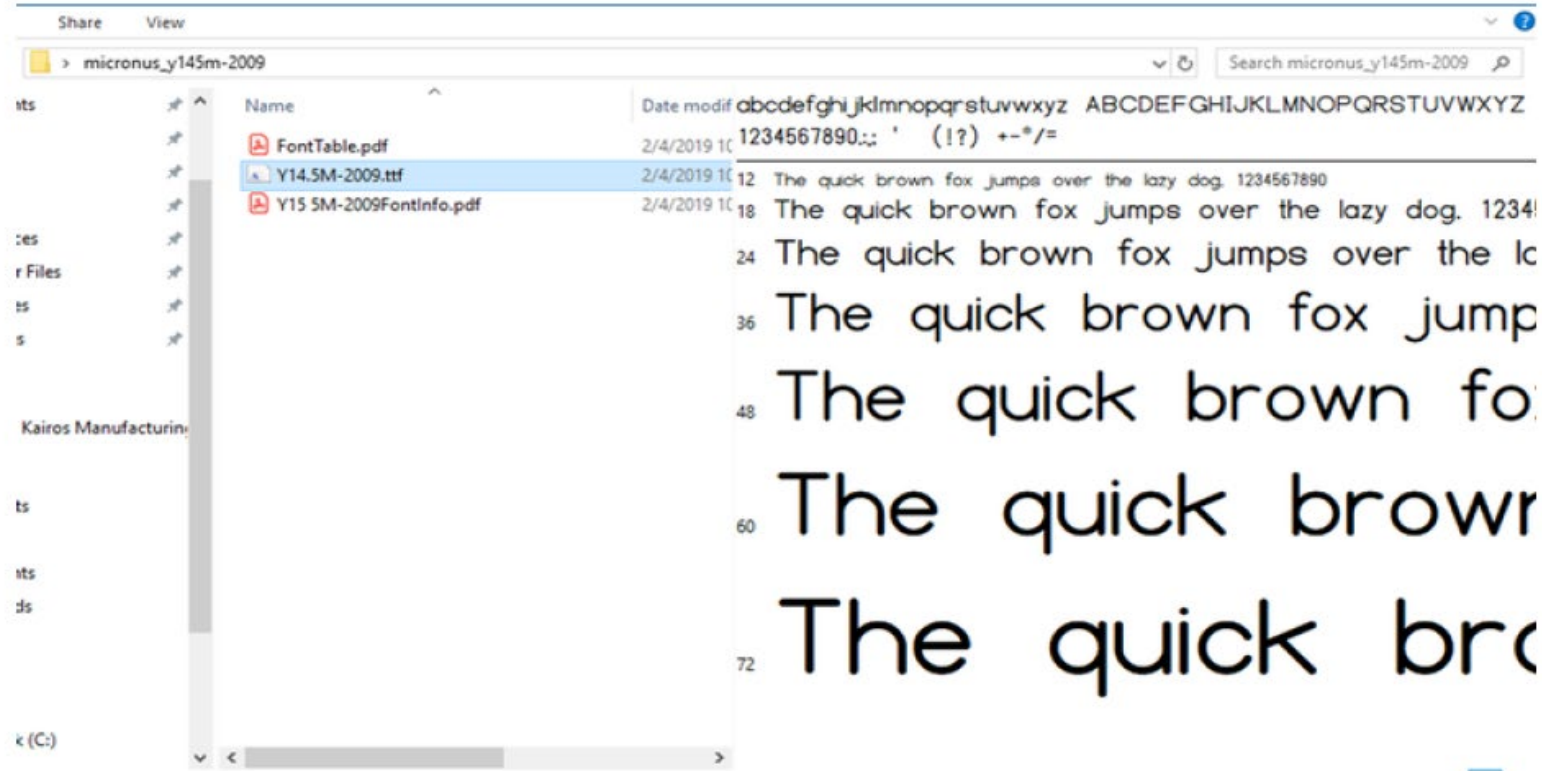
1. Select link to navigate to font page: <http://www.fontspace.com/micronus/y145m-2009>
2. Click "Download" to download .zip file with Font installer.



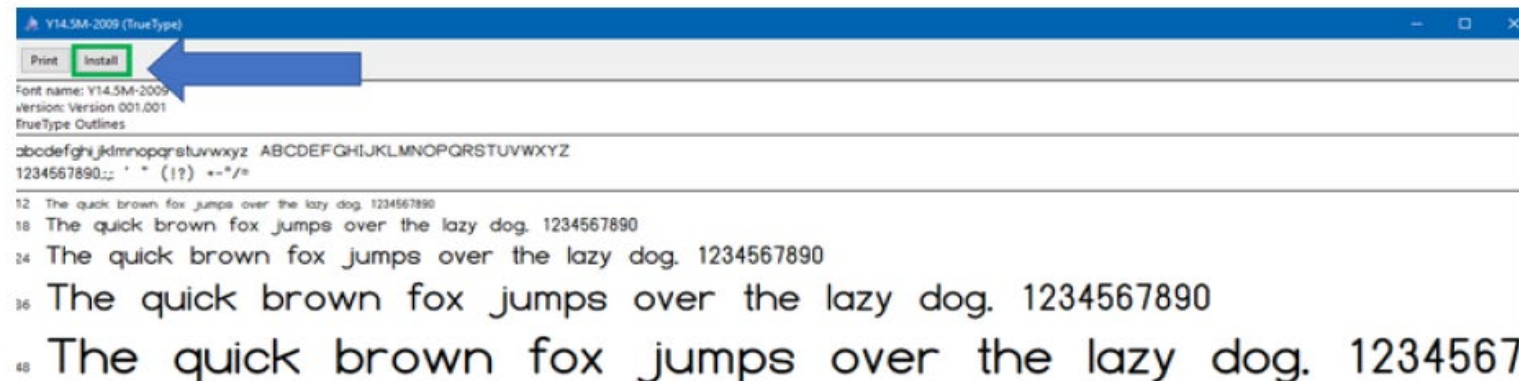
3. Navigate to downloaded .zip file and **extract all contents**.

GD&T Font Downloading instructions

4. Double click to open "Y14.5M-2009.ttf" file.

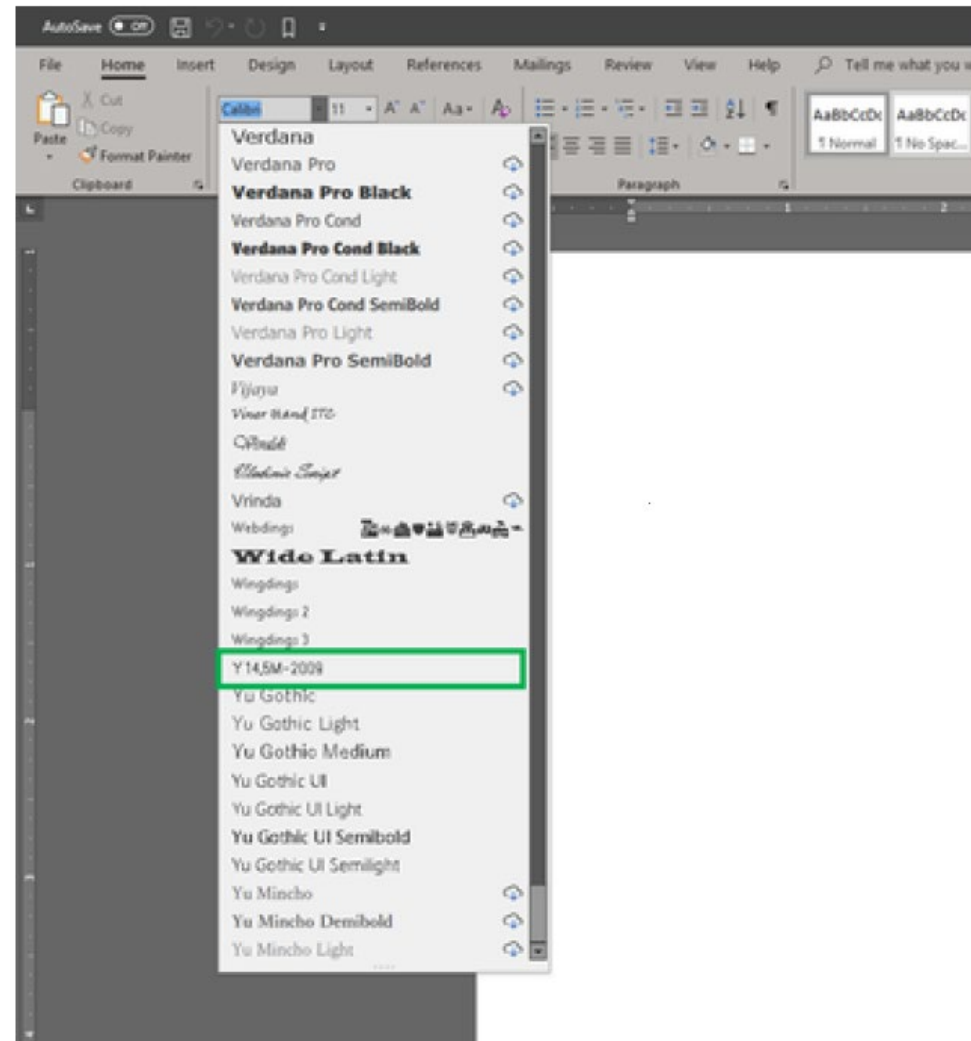


5. Select "Install" to load the font.



GD&T Font Downloading instructions

6. Open Microsoft Word or similar application and check to ensure the font was properly installed.



Finish Certification requirements:

- The certification must be produced by the finishing company on their company letterhead.
- The document will include either the Xometry part number or customer part number for traceability to the part as well as the complete spec that the part has been finished to.
- The spec must match what the customer is requesting on the drawing.
- The finish cert will include the finishers signature and date along with a certification number.

Standard Inspection Requirements

The inspection will be in-process. **Documentation** will **not** be **shipped** with parts.

- For regular standards inspections please pull the **critical dimensions** from the drawing/model/cad file and create your own report or use the Xometry Standard Report..
- In the case that a drawing was not provided, please record the checked dimensions from the CAD Model and record the results.
- Please provide the dimensional results next to the corresponding dimension.
- You can also record the dimensional results on a copy of the blueprint next to the corresponding dimension and upload that as a pdf file to the portal.
- Please upload an up-close and clear picture of each face/side of the finished parts including detailed photos of any features such as engraving, ink stamp, laser marks, threads/tapped holes, inserts or hardware. Please refer to the print and try to take pictures from the same angles it shows. We need to see the entire part so that we can verify the appearance against the print. This is a requirement in the partner guide.

The formal inspection document (**Standard, Formal, CMM & FAI Report Template.xlsx**) is located [here](#). Under the subsection 'Standard Inspection'. Please be signed into Xometry community for visibility

Formal Inspection Report

- A **dimensional inspection report** will be **shipped** with the ballooned print.
- An inspection report will need to be uploaded to the portal using **excel format**.
- Dimensions with less than **±.005 tolerance** can not be checked with calipers. An example of a more accurate measuring tool would be **micrometers**.
- You will need to **upload up-close and clear picture of each face/side of the finished parts** including detailed photos of any features such as **engraving, ink stamp, laser marks, threads/tapped holes, inserts or hardware**. Please refer to the print and try to take pictures from the same angles it shows. We need to see the entire part so that we can verify the appearance against the print. This is a requirement in the partner guide.
- **Bag and tag pictures** (when required) will also need to be uploaded. This will include the part being individually wrapped/bagged with a tag/label attached to the wrapping stating the required information that was provided to you or, if no labeling information was given, simply include the **part number** from the drawing. **Absolutely no tape, wire or marker is permitted on the parts.**

Formal Inspection Report (completed by Xometry)

Must be the **Customer's Part Number and Rev.**

Customer name
Not required if ballooning the drawing yourself

Material type **and** material lot number

Contact Name from the Traveler.
Not required if ballooning the drawing yourself

How Many parts in total order



Final Inspection Report

Form QA2F03 Rev 3

Customer:	Contact:	Supplier: XOMETRY	Cage Code: 74HM3
Part Number / Rev:	Part Name:	Order ID:	Lot Size: 10
Material / Lot #:	Finish: Standard	Part ID:	Sample Size: 5 S/N: 001-005

Sample Results Columns are required to be completed. Min/Max Results will auto-populate. (Fonts: Green indicates measurement is within tolerance, Red indicates measurement is out of tolerance, Black is for Xometry internal use only. Do not change formatting.)

<u>Inspection / Test Results</u>											<u>Other Fields</u>			
<u>Balloon:</u>	<u>Feature:</u>	<u>Requirement:</u>	<u>Units</u>	<u>Upper Limit:</u>	<u>Lower Limit:</u>	<u>Sample 1</u>	<u>Sample 2</u>	<u>Sample 3</u>	<u>Sample 4</u>	<u>Sample 5</u>	<u>Min Result:</u>	<u>Max Result:</u>	<u>Measurement Tool Type & ID #:</u>	<u>Notes:</u>

Must be the **Customer's Part Name**


Customer Part ID

How Many parts inspected / List serial numbers if required

Formal Inspection Report (completed by Xometry)

The Balloon Number from the print

Xometry Order ID
(10 Digital Code)

															<u>Final Inspection Report</u>				
Form QA2F03 Rev 3																			
Customer:			Contact:						Supplier: XOMETRY			Cage Code: 74HM3							
Part Number / Rev:			Part Name:						Order ID:			Lot Size:	10						
Material / Lot #:			Finish: Standard						Part ID:			Sample Size:	5						
												S/N:	001-005						
Sample Results Columns are required to be completed. Min/Max Results will auto-populate. (Fonts: Green indicates measurement is within tolerance, Red indicates measurement is out of tolerance, Black is for Xometry internal use only. Do not change formatting.)											<u>Inspection / Test Results</u>				<u>Other Fields</u>				
<u>Balloon:</u>	<u>Feature:</u>	<u>Requirement:</u>	<u>Units</u>	<u>Upper Limit:</u>	<u>Lower Limit:</u>	<u>Sample 1</u>	<u>Sample 2</u>	<u>Sample 3</u>	<u>Sample 4</u>	<u>Sample 5</u>	<u>Min Result:</u>	<u>Max Result:</u>	<u>Measurement Tool Type & ID #:</u>	<u>Notes:</u>					

The **Feature Type:**
Linear,
Diameter,
Thread,
Depth,
Radial, etc

What the drawing states is allowed: tolerance, spec, etc.

Make sure the dimensional unit matched the drawing

Upper limit of the Tolerance

Lower limit of the Tolerance

Formal Inspection Report

(To be completed by the partner)



Final Inspection Report

Form QA2F03 Rev 3

Customer:		Contact:		Supplier: XOMETRY		Cage Code: 74HM3								
Part Number / Rev:		Part Name:		Order ID:		Lot Size: 10								
Material / Lot #:		Finish: Standard		Part ID:		Sample Size: 5 S/N: 001-005								
<p><i>Sample Results Columns are required to be completed. Min/Max Results will auto-populate. (Fonts: Green indicates measurement is within tolerance, Red indicates measurement is out of tolerance, Black is for Xometry internal use only. Do not change formatting.)</i></p>						<u>Inspection / Test Results</u>		<u>Other Fields</u>						
<u>Balloon:</u>	<u>Feature:</u>	<u>Requirement:</u>	<u>Units</u>	<u>Upper Limit:</u>	<u>Lower Limit:</u>	<u>Sample 1</u>	<u>Sample 2</u>	<u>Sample 3</u>	<u>Sample 4</u>	<u>Sample 5</u>	<u>Min Result:</u>	<u>Max Result:</u>	<u>Measurement Tool Type & ID #:</u>	<u>Notes:</u>

List the measuring tool used for the balloon notes from the print as either cert, visual print/mode, D, the tool or even N. If there is no process. If asking what you used complete the notes to match the parts match the print

Material type. Material lot number must be listed next to the material type when a material cert is required

List the results from **each individual** sample

The **MINIMUM** result Measured from the Sample Size

The **MAXIMUM** result Measured from the Sample Size

Must include the **tool type** as well as the **tool ID**
eg. Calipers: C104

The tool ID must be traceable back to the tool and the tool must be calibrated with a record

Formal Inspection Report

(To be completed by the partner)

<i>The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.</i>									
Prepared by:								Date:	

↑

Typed name of the inspector preparing the report (First and last name)

↑

Date the report was completed

CMM inspection reports

- The CMM reports are created on the same QA2F03 Rev 3 Template that the Formal inspection reports use.
- **All dimensions are to be measured and recorded using the CMM** less any hand measurements that are not achievable using a CMM. (i.e. ~ small radii, edge breaks, chamfers, threads, etc...)
- A copy of your CMM report must be uploaded to the portal as proof a CMM was used. This report is taken from your machine and does not need to be in line with the Xometry ballooned drawing.
- If you choose to use your own CMM report, the dimensions must be labeled to match the Xometry provided ballooned drawing or you may balloon the drawing to match your report. All balloons, including the notes from the drawing, must be on your report. The Xometry letterhead and information from the top of the Xometry report must appear on your CMM report as well.
- A **dimensional inspection report** will be **shipped** with the ballooned print.
- An inspection report will need to be uploaded to the portal using **excel format**.
- You will need to **upload up-close and clear picture of each face/side of the finished parts** including detailed photos of any features such as **engraving, ink stamp, laser marks, threads/tapped holes, inserts or hardware**. We need to see the entire part so that we can verify the appearance against the print. This is a requirement in the partner guide.
- **Bag and tag pictures** will also need to be uploaded when a bag and tag is required. This will include the part being individually wrapped/bagged with a tag/label attached to the wrapping stating the required information that was provided to you or, if no labeling information was given, simply include the **part number** from the drawing. **Absolutely no tape, wire or marker is permitted on the parts.**

First Article Inspection Report (FAI)

- **Report sample parts** for FAI reports are to be **labeled with the sample number** (as it corresponds with the report) typed on the label. No tape, wire tags or marker is permitted on the parts.
- A **dimensional inspection report** will be **shipped** with the ballooned print.
- An inspection report will need to be uploaded to the portal using **excel format**.
- Dimensions with less than **±.005 tolerance** can not be checked with calipers. An example of a more accurate measuring tool would be **micrometers**.
- You will need to **upload up-close and clear picture of each face/side of the finished parts** including detailed photos of any features such as **engraving, ink stamp, laser marks, threads/tapped holes, inserts or hardware**. Please refer to the print and try to take pictures from the same angles it shows. We need to see the entire part so that we can verify the appearance against the print. This is a requirement in the partner guide.
- **Bag and tag pictures** (when required) will also need to be uploaded. This will include the part being individually wrapped/bagged with a tag/label attached to the wrapping stating the required information that was provided to you or, if no labeling information was given, simply include the **part number** from the drawing. **Absolutely no tape, wire or marker is permitted on the parts.**

First Article Inspection Report (Form 1)

This form is used to identify the product that is having the First Article Inspection (FAI) conducted on (e.g., **detail part, sub-assembly, assembly**); referred to as "FAI part."
If the job does NOT require assembly, please leave fields 15,16,17 and 18 blank.

All sample parts are to be serialized so the (sample) S/N's will need to be listed here **starting with s/n 001**. This is even if the customer does not require serialization. **If the customer does require serialization, please follow the customer serialization numbers.**

Enter whether the part is a **detail part, sub-assembly, software, standard catalogue item, or COTS** (or equivalent).

List the **sub-assembly FAIR Identifiers from the individual Reports**.
If no FAIR identifier is available, input the organization's identifier for the FAI or approved configuration.

Date the report was completed, and Supervisor approved

Record **each part number** (for assembly and any hardware) that was used

Record **each part name** that was used. (insert size and type for hardware)

Typed name of the inspector preparing the report and the Supervisor that reviewed the document for errors. (First and last name)

First Article Inspection Report Form QAF05 Rev 3
Form 1: Part Number Accountability

1. Part Number		2. Part Name		3. Serial/Lot Number		4. FAIR Identifier	
5. Part Revision Level		6. Drawing Number		7. Drawing revision level		8. Additional Changes	
9. Manufacturing Process Reference (WO#)			10. Organization Name		11. Supplier Code		12. Purchase Order Number
13. Detail: <input type="checkbox"/>		14. Full FAI <input type="checkbox"/>		Baseline Part Number including revision level			
		Partial FAI <input type="checkbox"/>					
Assembly: <input type="checkbox"/>		Reason for Full/Partial FAI:					
a) if above part number is a detail part only, go to Field 19							
b) if above part number is an assembly, go to the "INDEX" section below.							
INDEX of part numbers or sub-assembly numbers required to make the assembly noted above.							
15. Part Number		16. Part Name		17. Part Type		18. FAIR Identifier	
19. Does FAIR Contain A Documented Nonconformance(s)? Yes <input type="checkbox"/> No <input type="checkbox"/>							
20. FAIR Verified By:						21. Date:	
22. FAIR Reviewed/ Approved By:						23. Date:	
24. Customer Approval:						25. Date	
26. Comments:							
FAI Status: <input type="checkbox"/> FAI Acceptable <input type="checkbox"/> FAI Pending <input type="checkbox"/> FAI Rejected							



First Article Inspection Report (Form 2)

Material specifications and material form, **Special process specifications**; including class, if applicable, and permitted substitutions, If Commercial-Off-the-Shelf (COTS)/standard catalogue items are modified, then list the non-modified standard hardware or COTS item or part number.

All sample parts are to be **serialized** so the (sample) S/N's will need to be listed here **starting with s/n 001**. This is even if the customer does not require serialization. **If the customer does require serialization, please follow the customer serialization numbers.**

First Article Inspection Report Form QAF05 Rev 3
Form 2: Product Accountability - Raw Material, Specifications & Special Process(es) and Functional Testing

1. Part Number 0		2 Part Name 0		3. Serial / Lot Number 0		4. FAIR Identifier 0	
5. Material or Process Name		6. Specification Number & Revision No.		7. Code		8. Special Process Supplier Code	
						9. Customer Approval Verification (Yes/No/NA)	
						10. Certificate of Conformance number	
11. Functional Test Procedure Number		12. Acceptance report number, if applicable					
13. Comments							
14. Prepared By				15. Date			

Name of materials (e.g., raw materials, paint, primer adhesives, weld filler) or special process.

PO #, Invoice #, or document # that **provides linkage** to the certification defining compliance. **For material, this would be the material lot #, heat # or cast # as it is listed on the material cert.**

For finish, the PO or cert number from the finish cert is required.

Identify organization (internal or external) **performing special process(es)** or **supplying material** (mill).
• Name, Address and Code (when available).

Signed by Inspector (First and Last name)

Any code specified for the material or process that is listed on the customers drawing

Date of completion

First Article Inspection Report



Final Inspection Report

First Article Inspection Report Form QAF05 Rev 3

Customer:	Contact:	Supplier: XOMETRY	Cage Code: 74HM3
1) Part Number / Rev: 0 0	2) Part Name: 0	Order ID:	4) FAIR Identifier 0
Material / Lot #:	Finish: Standard	Part ID:	Sample Size: 2

Sample Results Columns are required to be completed. Min/Max Results will auto-populate. (Fonts: Green indicates measurement is within tolerance, Red indicates measurement is out of tolerance, Black is for Xometry internal use only. Do not change formatting.)

								Inspection / Test Results			Other Fields	
5) Balloon:	6) Zone:	7) Feature:	8) Requirement:	Units	Upper Limit:	Lower Limit:	9) Serial Number (Record Serial Number in Row 9 starting at Column 9)	Min Result:	Max Result:	10) Measurement Tool Type & ID #:	11) Non Conformance Number	12) Additional Data/ Comments
							9) Results					
							SN: 001	SN: 002				

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

13) Prepared by:	14) Date:
------------------	-----------

Material **type** and material **lot number**

Identifies the **location** of Feature on **Drawing**

The **Feature Type**:
Linear,
Diameter,
Thread,
Depth,
Radial, etc

What is the Dimension/
Feature per the drawing

Upper and Lower limit of the Tolerance

Your dimensional result from measuring the part

Continued on the next Slide!

First Article Inspection Report



Final Inspection Report

First Article Inspection Report Form QAF05 Rev 3

Customer:		Contact:		Supplier: XOMETRY		Cage Code: 74HM3							
1) Part Number / Rev: 0 0		2) Part Name: 0		Order ID:		4) FAIR Identifier 0							
Material / Lot #:		Finish: Standard		Part ID:		Sample Size: 2							
<p><i>Sample Results Columns are required to be completed. Min/Max Results will auto-populate. (Fonts: Green indicates measurement is within tolerance, Red indicates measurement is out of tolerance, Black is for Xometry internal use only. Do not change formatting.)</i></p>							<u>Inspection / Test Results</u>		<u>Other Fields</u>				
5) Balloon:	6) Zone:	7) Feature:	8) Requirement:	Units	Upper Limit:	Lower Limit:	9) Results		Min Result:	Max Result:	10) Measurement Tool Type & ID #:	11) Non Conformance Number	12) Additional Data/ Comments
							SN: 001	SN: 002					
<p><i>The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.</i></p>													
13) Prepared by:										14) Date:			

If the characteristic is found to be **nonconforming**, record a nonconformance document reference number.

For the **ballooned notes** from the print list either a **cert, visual, print/model/CAD, the tool used or even N/A** if there is no process. It is asking what "tool" you used to complete those notes to make the parts match the print.

Must contain the first and last name of the **person who inspected the parts**

The min/max results will auto-populate once the dimensional results are inserted

Date of report completion

Must include the **tool type** as well as the **tool ID**
eg. Calipers: C104

First Article Inspection Report



Final Inspection Report

First Article Inspection Report Form QAF05 Rev 3

Customer:	Contact:	Supplier: XOMETRY	Cage Code: 74HM3
1) Part Number / Rev: 0 0	2) Part Name: 0	Order ID:	4) FAIR Identifier 0
Material / Lot #:	Finish: Standard	Part ID:	Sample Size: 2

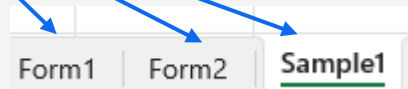
Sample Results Columns are required to be completed. Min/Max Results will auto-populate. (Fonts: Green indicates measurement is within tolerance, Red indicates measurement is out of tolerance, Black is for Xometry internal use only. Do not change formatting.)

								<u>Inspection / Test Results</u>			<u>Other Fields</u>		
<u>5) Balloon:</u>	<u>6) Zone:</u>	<u>7) Feature:</u>	<u>8) Requirement:</u>	<u>Units</u>	<u>Upper Limit:</u>	<u>Lower Limit:</u>	<u>9) Serial Number</u> (Record Serial Number in Row 9 starting at Column 9)	<u>Min Result:</u>	<u>Max Result:</u>	<u>10) Measurement Tool Type & ID #:</u>	<u>11) Non Conformance Number</u>	<u>12) Additional Data/ Comments</u>	
							<u>9) Results</u>						
							<u>SN: 001</u>						<u>SN: 002</u>

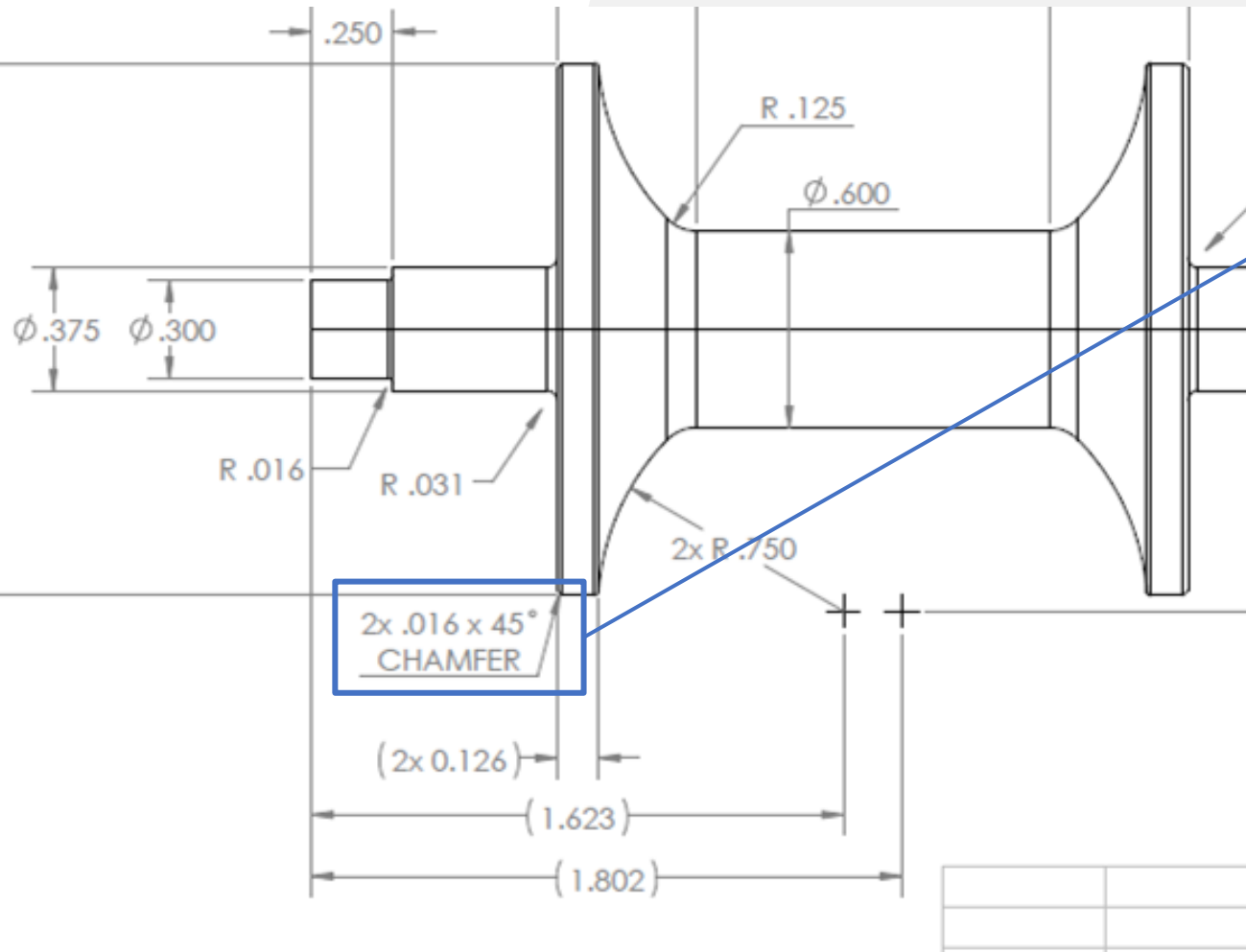
The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

13) Prepared by:	14) Date:
------------------	-----------

Must Be Filled out. Click on each tab to access.



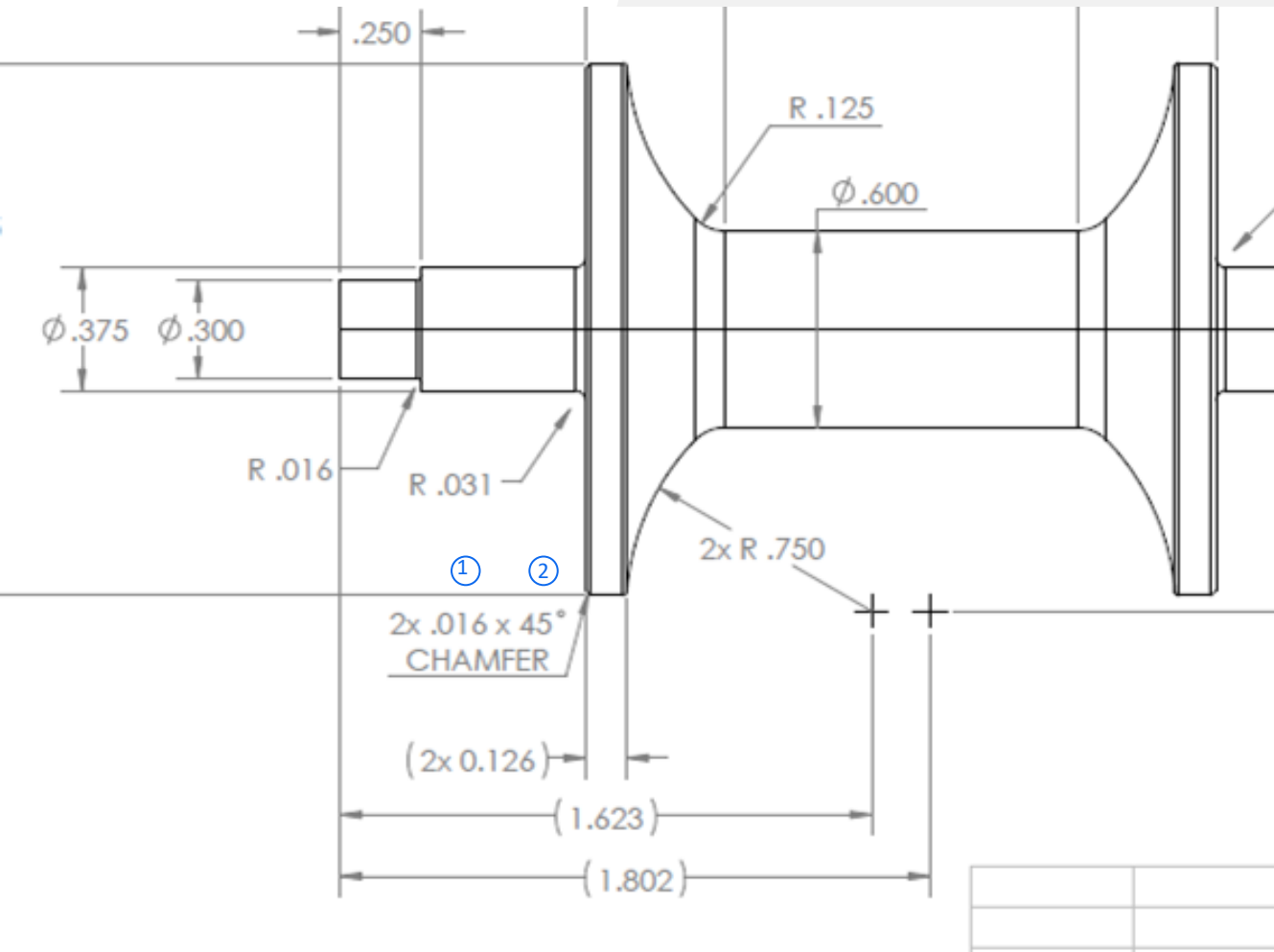
Drawing Ballooning



When ballooning a FAI report, **features are required to be broken down into several balloons**

- The example shown will require two tools/methods to complete inspection for the features
 - 1: Chamfer length
 - 2: Chamfer angle

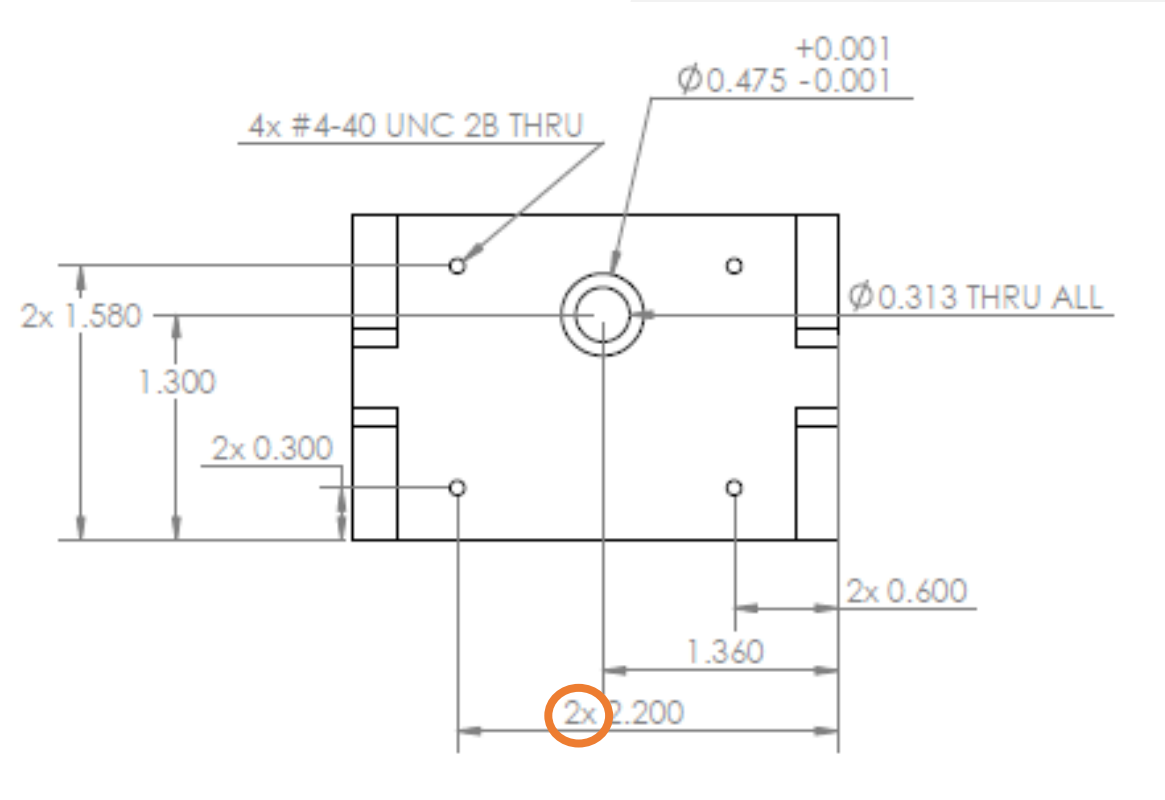
Drawing Ballooning



This dimensional requirement would be converted into **(2) ballooned** features

- The distance (.016) seen as **balloon 1**
- The angle (45°) seen as **balloon 2**

Drawing Ballooning



The circled data is stated to be a repeated feature (2) times.

- What does this look like on a formal inspection report?
- What does this look like on a FAIR

Drawing Ballooning

Formal Inspection

Balloon:	Feature:	Requirement:	Units	Upper Limit:	Lower Limit:	Sample 1	Sample 2	Min Result:	Max Result:	Measurement Tool Type & ID #:
1	2.2	±.005	in	2.2050	2.1950	2.1980	2.2030	2.1980	2.2030	Gage pin .0849, Calipers C101

When the drawing calls the feature to be iterated, the **feature can be documented under one balloon**

- The min and max result of all the features will auto-populate as the sample results are entered.

FAIR

Balloon:	Zone:	Qty:	Feature:	Requirement:	Results:	Measurement Tool Type & ID #:	Non-Conformance Number:	Notes:
1.1	A1	1	2.2	±.005"	2.198	Gage Pin .0849, Calipers C101		
1.2	A1	1	2.2	±.005"	2.203	Gage Pin .0849, Calipers C101		

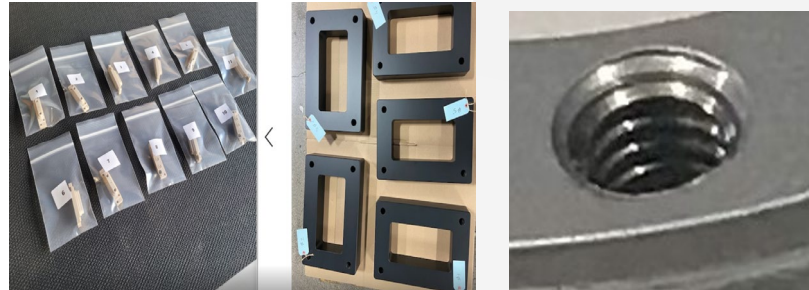
When the drawing calls the feature to be duplicated, the **inspection document must sub-bullet** the duplications to be **identified individually**

The inspection document must identify each iteration of the features a sub-balloon (eg. 1.1,1.2,1.3)

Pictures to be Uploaded to the Portal

Part Photos

- Up close and clear **Pictures of Each side** of the clean and finished part.
- Report **sample parts** for **FAI reports** are to be tagged or bagged with the sample # (as it corresponds with the report) typed on the label. No tape, wire tags or marker is permitted on the parts.
- Up close and clear **picture of any features** such as engraving, ink stamp, laser marks, threads/tapped holes with countersink, inserts or hardware.



Bag and Tag

- A bag and tag picture will be required when listed on the print, traveler or PO.
- Parts can be wrapped in bags, bubble wrap, brown paper, saran wrap or any other packaging you ship your parts in. This includes large parts packed in crates.

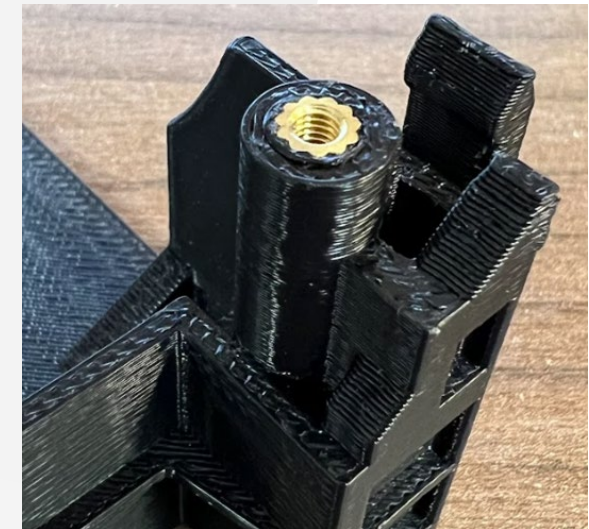
NOTE: When no bag and tag information is provided, label the wrapped part with the **part number** from the drawing on a typed label. Ask Xometry if instructions are unclear.



Hardware

- **Any** hardware that was required to be installed, per the PO, will need an up close and clear picture uploaded to the portal by the partner.

NOTE: Review **drawing** for **hardware** installation **directionality**. Ask Xometry if instructions are unclear.



Shipping Documents

All required documents are to be uploaded to the portal and a **physical copy must be shipped with the parts** (standard reports do not shipped to the customer but must be uploaded to the portal.)

Make sure the GD&T font shows correctly on your printed report. If there is an issue, please refer to page 10 of this document for instructions on correcting the font.

The digitally signed Xometry CoC must be printed and shipped with the parts in place of the original Xometry CoC.

If all **required documentation is not shipped with the parts**, (including a copy of the ballooned print) this is considered a non conformance and is treated as such on the partner's score: eg rejected part.

NOTE: Validate the proper information such as customer naming and customer revision is correct or required paperwork. This can also lead to a rejected part to impact the partner's score

Virtual Quality Check (VQC)

A **VQC** shall be **required** if:

- Your **quality score** has dropped below **86**
- The **customer** has **requested Xometry** to **look** at the **parts** before they ship
- Your **job** was **chosen** at **random** to **audit** our direct ship quality process
- A **customer** has **received non-compliant parts**
- You have **completed** a **job** that requires a **Formal/CMM or FAIR Inspection**

[Xometry Community VQC Link](#)

Common VQC Challenges

- **Sending an email to Xometry instead** of using the "request VQC" function on the portal.
- **Requesting VQC through other support channels** or with the case manager instead of utilizing the "request VQC" function on the portal.
- Not including the **material or finish specifications** on the Xometry CoC (Certificate of Conformance).
- Not including the **material type or lot number** in the upper left corner on the reports.
- Not including **inspection tool ID numbers** on the reports
- Not uploading the **Formal, FAI CMM report** as an **excel document**.
- **Missing photos of bag and tags** or **close up, clear pictures of inserts** and **part markings**
- **Not receiving prior approval for any deviations** (such as a different specification of material or finish spec)
- For jobs requiring **CMM inspections**, please be sure to **upload your CMM data from your CMM as well as the Xometry CMM report**. This is a new requirement.
- All **certification documentation** must be uploaded in **PDF format**. Example is Xometry CoC, material cert, finish cert... All **Formal, CMM and FAI Reports must be uploaded using Excel format**.

[Xometry Community VQC Link](#)

Navigating the Portal

Click here to get to the inspection documents

Line Items 50% Complete (2/4 Tasks) Collapse All

Open Line Items on Kanban

Part ID: 01998C4 0.394 x 0.157 x 0.157in
0199817_model_r_0(1).step

1 Units In 8 days

Source Materials Manufacture Parts Inspect Parts 0/3 Ship Parts In 8 days

Materials Received Production Started Inspection Started Shipping Started Completed

View Attachments (2) Edit Due Date Assign All Tasks

Additional Details	Certificates and Supplier Qualifications
Fabrication of customer part 01998C4 from order 1B885-15126	ITAR/EAR Not Required
Inspection	Surface Roughness
Formal Inspection with Dimensional Report	Smallest Roughness: 125uin/3.2um Ra
Tolerance	Finish
Tightest Tolerance: +/- .005" (+/- .127mm)	Standard
Material	Process
Aluminum 6061-T6	CNC Machining

This is where you will find the inspection report template

← Previous Task Next Task →

Track Quantity

Track Quantity Split Track Finish All

Required Subtasks 0/3

- Attach Progress Photos
- Attach Formal Inspection with Dimensional Report
Formal Inspection with Dimensional Report
Download Templates
- VQC Required
VQC is required, request virtual inspection to progress
Fill Out Form

Optional Subtasks

Job ID: J00CD3C1

Process: CNC Machining

Material: Aluminum 6061-T6

Finish: Standard

Tolerance: Tightest Tolerance:

Navigating the Portal

Click here to request VQC inspection

Sending an email to VQC@xometry.com is not recommended. By clicking the shown button, your request takes the fastest route directly to our inspector que.

Home
Job Management
Customer Directory
Shop Finances

Get Work
Xometry
Job Board
(66) My Scorecard
Resources
Thomas
Projects

MSC
OVER 1.5 MILLION INDUSTRIAL SUPPLIES
Shop Now

< Back to All Jobs
J00CD3C1 Ship by April 25, 2023
+ Follow This Job View Job Discussion

Job Milestones
Select to move job to a milestone

- Materials Received Today
- Production Started Today
- Inspection Started **Request Virtual QC**
- Shipping Started
Blocked by Requirements
0 of 1 ready to Ship
- Completed

Quick Actions
[Update Completion Date](#) [All Part Files](#) [Inventory List](#) [Purchase Order](#) [Ask a Question](#)
[Report an Issue](#)

Job Details Attachments 0

61% Match [Learn More](#)

Inspection Status: None [Request a Review](#)

Price	295	Finish	Standard
Process	CNC Machining	Tolerance	Tightest Tolerance: +/- .005" (+/- .127mm)
Material	Aluminum 6061-T6	Surface Roughness	Smallest Roughness: 125uin/3.2um Ra
Inspection	Formal Inspection with Dimensional Report		
Certificates and Supplier Qualifications	ITAR/EAR Not Required		

Once you have clicked the “**Request VQC**” feature in the portal, your request is automatically entered in our queue (for the entire job) and the next available VQC inspector will begin your inspection.

You will receive an email from our inspector notifying you if there are revisions that are required or if you are unblocked to ship.

If you have revisions to make, please do so and then **reply to the email chain that you already have established with the inspector.** **There is no need to submit another VQC request** because your job is already in process.

Once the inspection is complete, you will be able to access the packing slip and shipping labels in the portal.

We take great pride in helping you successfully complete the inspections and are always here to help you through the process. This partnership insures the customer receives all documentation exactly the way they required!

Thank You for all you do!