

PLETHORA

Our goal is to help you iterate faster. In order to make things easy, we offer multiple solutions to best suit your workflow. By following the steps below, you'll receive manufacturability analysis as you design, instant pricing, and the ability to order quick-turn parts with committed prices and turnaround times.

If you have any questions, our team is always available to help at support@plethora.com

Plethora Web Platform - Getting Started

Our web platform is ideal for users who want to order many parts at a time, would rather give us a try before downloading, or whose CAD is not supported by our Add-in.

1. [Sign up](#) or Log in
2. Go to <https://www.plethora.com/upload>
3. Drag and drop CAD files or click to browse from your device.
Supported file types: ACIS®, Inventor®, CATIA® V5, Creo™ Parametric, IGES, Parasolid®, Pro/ENGINEER®, NX™, SolidEdge®, SolidWorks® and STEP files.
4. Continue to Analysis steps listed below.

Plethora CAD Add-in - Getting Started

Our Add-in is best suited for CAD users who want instant pricing & manufacturability feedback while they design. Test different configurations and incorporate feedback to iterate faster.

1. [Sign up](#) or Log in
2. [Download](#) and Install Add-in
Here's a handy [download guide](#) to provide a step by step on the installation.
3. Once installed, open an existing 3D model or create a new design from scratch!
Assemblies cannot be analyzed, so make sure you have a single solid body.
4. Click on the “P” Icon to launch the Plethora Add-in.
5. Select a material from the drop-down menu & continue to “Analyze” steps below.

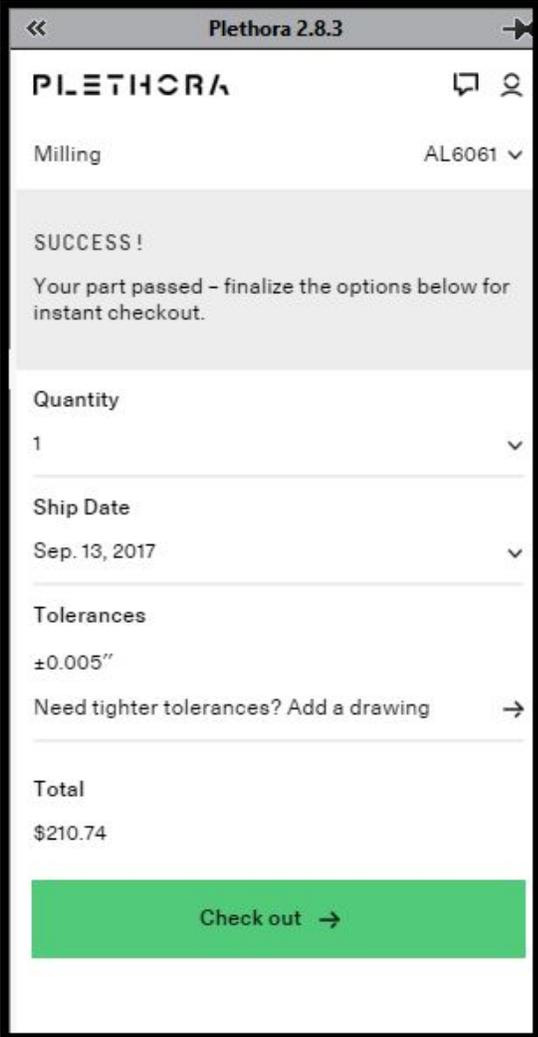
Analyze your part!

Our analysis takes into account part geometry, tool accessibility, runtime, material costs, and available factory capacity to provide an instant price and turnaround date.

1. In the Add-in, click “Analyze”. On the Web Platform, analysis begins after upload.

If it passes manufacturability checks: confirm details and begin checkout

2. If your design passes manufacturability analysis, you will immediately see a price and can confirm your desired Quantity, Ship Date, and Tolerances. If you need tighter tolerances or other special requests, follow the *Submit For Quote flow outlined below.
3. Select “Checkout” option, and continue to the web page that opens. From there, you can adjust the quantity and turn time, select payment, and order your part!



The screenshot displays the Plethora 2.8.3 mobile application interface. At the top, the title bar shows a back arrow, the version number "Plethora 2.8.3", and a forward arrow. Below the title bar, the app name "PLETHORA" is displayed in a bold, sans-serif font, accompanied by a chat icon and a user profile icon. The main content area is divided into several sections. The first section is a light gray banner with the text "SUCCESS!" and "Your part passed - finalize the options below for instant checkout." Below this, there are three sections, each with a title and a value: "Quantity" with a value of "1", "Ship Date" with a value of "Sep. 13, 2017", and "Tolerances" with a value of "±0.005\"". Each section has a downward-pointing chevron icon on the right. Below the "Tolerances" section, there is a link that says "Need tighter tolerances? Add a drawing" with a right-pointing arrow. At the bottom of the form, there is a "Total" section with a value of "\$210.74". Finally, at the very bottom, there is a large green button with the text "Check out" and a right-pointing arrow.

Successful Analysis

If it doesn't pass manufacturability checks: fix issues & re-analyze, or submit for manual quoting

4. If it doesn't pass manufacturability analysis, you can use the provided feedback to modify and re-analyze the part. The suggested changes will be listed and you can click each checkbox to highlight the associated feature. Fixing manufacturability issues will save you time by allowing you to check out on the spot!

Note: this feedback is specific to Plethora's current capabilities. For example it does not include broaching, wire EDM, sheet metal fabrication, etc.

Fix the issues below to start checkout now.

> Internal Corner (36)

We currently don't support internal corners.

> Face Boundary Too Tightly Curved (6)

The boundary of this face is too tightly curved to be milled. Please smooth out any kinks along the boundary to a radius of at least 0.018in.

> Face Too Deep Or Space Too Thin (6)

There are currently no tools deep enough to mill this face that also fit between this face and its opposing face. Please either decrease the face depth to 0.34in or increase the space between them to at least 0.102in.

> Obstructed Face (6)

This face is not accessible for side or face milling. Please clear the obstruction or move the feature.

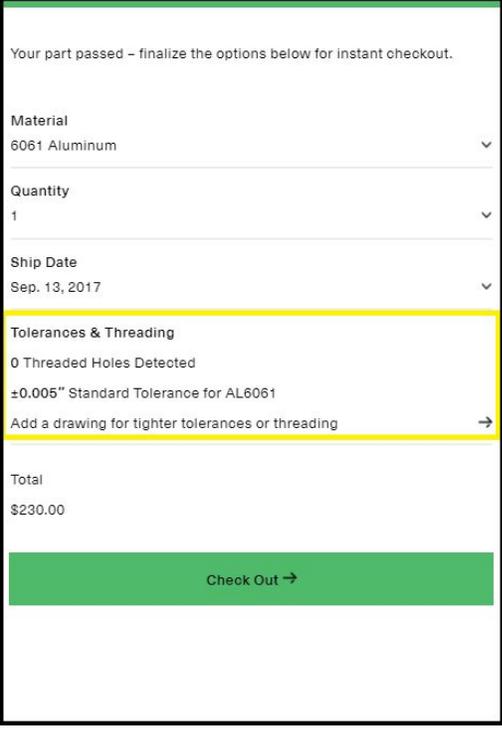
Design for Manufacturability Feedback

5. If you need to keep a certain feature that has been highlighted as non-manufacturable (and you think it should be in Plethora's wheelhouse), proceed to *Submit For Quote flow as outlined below.

*Submit For Quote Workflow

If your part passes manufacturability checks and you don't have any special needs, you can checkout on the spot. Alternatively, you should submit for quote in the following scenarios:

1. Your part passes analysis and you want to add extra requests, such as:
 - a. Tighter than standard tolerances (anything beyond $\pm .005$ " for metal, and $\pm .008$ " for plastics)
 - b. Special material requests
 - c. Finishing options
 - d. Sooner ship date than is available
 - e. Larger quantity than is available



Your part passed – finalize the options below for instant checkout.

Material
6061 Aluminum

Quantity
1

Ship Date
Sep. 13, 2017

Tolerances & Threading
0 Threaded Holes Detected
 ± 0.005 " Standard Tolerance for AL6061
Add a drawing for tighter tolerances or threading

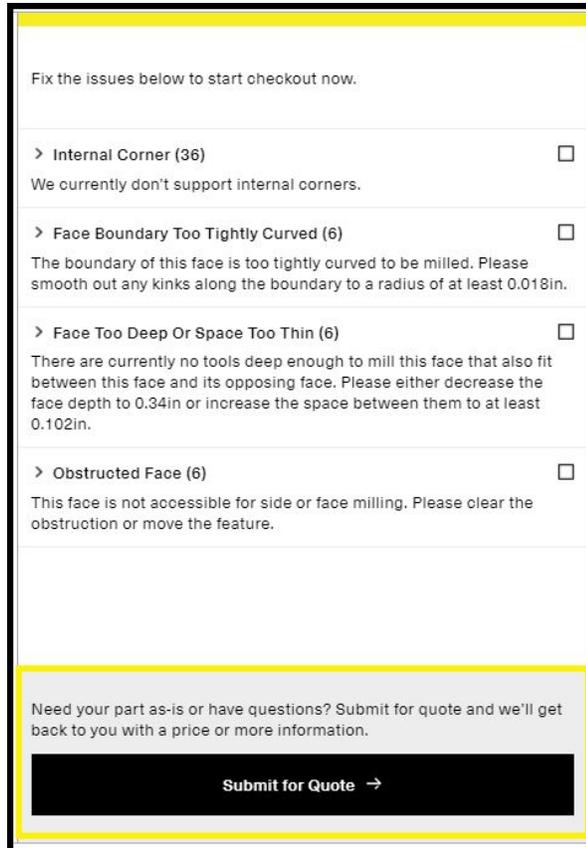
Total
\$230.00

Check Out →

Pass Analysis Submit Option

2. Your part fails initial analysis, but you'd like to keep certain features and want to see if Plethora can make it, and at what price.
 - a. Failed geometry analysis check, but you believe it's still manufacturable by Plethora.
 - b. Your part is meant for a lathe or turning center.

Please Note: Turning analysis to be released soon. For now, please submit for quote.



Fix the issues below to start checkout now.

- > Internal Corner (36)
We currently don't support internal corners.
- > Face Boundary Too Tightly Curved (6)
The boundary of this face is too tightly curved to be milled. Please smooth out any kinks along the boundary to a radius of at least 0.018in.
- > Face Too Deep Or Space Too Thin (6)
There are currently no tools deep enough to mill this face that also fit between this face and its opposing face. Please either decrease the face depth to 0.34in or increase the space between them to at least 0.102in.
- > Obstructed Face (6)
This face is not accessible for side or face milling. Please clear the obstruction or move the feature.

Need your part as-is or have questions? Submit for quote and we'll get back to you with a price or more information.

Submit for Quote →

Fail Analysis Submit Option

To initiate the Submit for Quote flow please follow the steps below.

1. If your part passes analysis, there will be an option that asks “Need tighter tolerances? Add a drawing”. From here you can add details and submit your part.
2. Should your design fail Plethora’s initial manufacturability checks, click the “Submit for Quote” button.
3. Review your order details: confirm material and adjust desired ship date/quantity, attach a PDF if applicable with tolerances or threading callouts, add notes with any pertinent information.

Note: you will be able to adjust Ship Date & Quantity again during checkout.

4. Click to submit your part for manual quoting, and we will return with a price or more information within 1 business day.

Checkout!

By now you've either received a successful analysis from the Web Platform/CAD Add-in, or you have received an email with an order link notifying you that your Request for Quote is completed. For the first option, please click the "Checkout" button and proceed to your Order page. At any time you can view your order history from your Account page.

1. Review Order Details
 - a. Please be sure your Material, Quantity, Ship by date is correct.
 - b. Please ensure the shipping address and billing information is entered accurately.
Feel free to direct any billing questions to support@plethora.com
2. Should you wish to use your Plethora Account Credit or a Coupon Code for a discount, please check off the credit box or enter the code prior to checking out.
3. Keep in mind that manual quotes will expire after 5 days, but should you need more time, we can extend this.
4. Also know that Standard USPS shipping is included in the cost of your order. For special shipping requests, please direct your questions to the support address above and we can accommodate expedited options.