

ptc mathcad prime 4.0®

PTC Mathcad Prime 4.0

SHOW, SOLVE AND SECURE



Engineering calculations help to drive excellence in product design. You need a single tool that allows you to do accurate calculations easily, and then preserve, share, and reuse this important intellectual property (IP). That tool is PTC Mathcad, the industry's leading engineering math software.

The software calculates results and communicates ideas at the same time, allowing you to present your work with plots, graphs, text, and images in a single professionally-formatted document. It couldn't be easier.

When your IP is shareable, easily readable by anyone, and lives in one place, you've moved from managing information to making it a source of competitive advantage.

Key Benefits

- Securely communicate design intent and engineering knowledge
- Intuitively construct calculations using standard math notation
- Author professional-quality documents supported by live math, plots, text and images
- Repurpose standardized calculations to streamline next-generation product development and avoid the need to recreate calculations
- Increase productivity with full units support throughout calculations
- Become productive faster by getting instant access to comprehensive learning materials and tutorials from within PTC Mathcad

Intuitive Calculations and Units Management

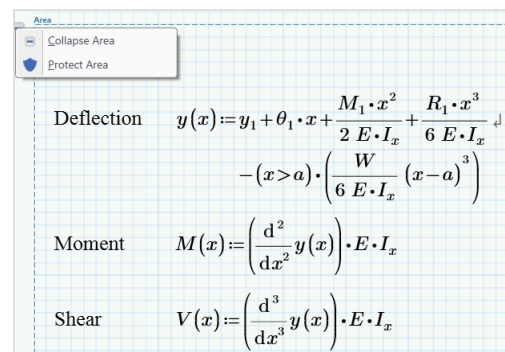
The PTC Mathcad interface combines live, standard mathematical notation with text and graphs:

- Integrated numeric and symbolic math allows you to see both the calculation as well as the reasoning behind designs
- Units are managed intelligently and automatically

$$\begin{bmatrix} 125 \text{ Pa} \\ 9.8 \frac{\text{m}}{\text{s}^2} \\ 20.2 \text{ A} \end{bmatrix} \cdot \begin{bmatrix} 25 \text{ m}^2 \\ 4.75 \text{ s} \\ 16 \text{ V} \end{bmatrix} = \begin{bmatrix} 3125 \text{ N} \\ 47 \frac{\text{m}}{\text{s}} \\ 323 \text{ W} \end{bmatrix}$$

Content Protection

This provides area protection and locking so that you control the degree of access and the visibility you want others to have. Now you can show your work to a broader audience more effectively and without fear of compromising your IP.



Deflection $y(x) := y_1 + \theta_1 \cdot x + \frac{M_1 \cdot x^2}{2 E \cdot I_x} + \frac{R_1 \cdot x^3}{6 E \cdot I_x} - (x > a) \cdot \left(\frac{W}{6 E \cdot I_x} (x - a)^3 \right)$

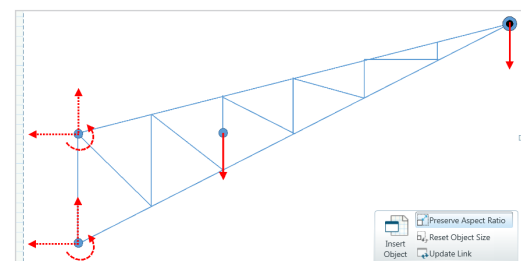
Moment $M(x) := \left(\frac{d^2}{dx^2} y(x) \right) \cdot E \cdot I_x$

Shear $V(x) := \left(\frac{d^3}{dx^3} y(x) \right) \cdot E \cdot I_x$

Interoperability

It's quick and easy to embed material from third-party applications in your Mathcad worksheet, as well as copy and paste multiple regions of a worksheet into MS Word. If your third-party software allows itself to be used as an OLE object, it will show up on the list of potential objects.

And that means greater productivity and better organization.



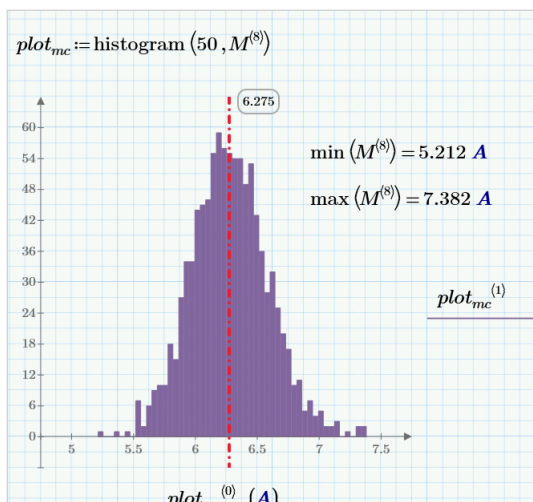
Usability

Equation wrapping offers more control over the presentation and legibility of calculations. Instead of disappearing off the side of the page, long equations are wrapped to make them easier to read. You can even 'wrap-as-you-type'.

Functions

Don't "do it yourself". Mathcad includes built-in functions for all these purposes and many more, independent of industry:

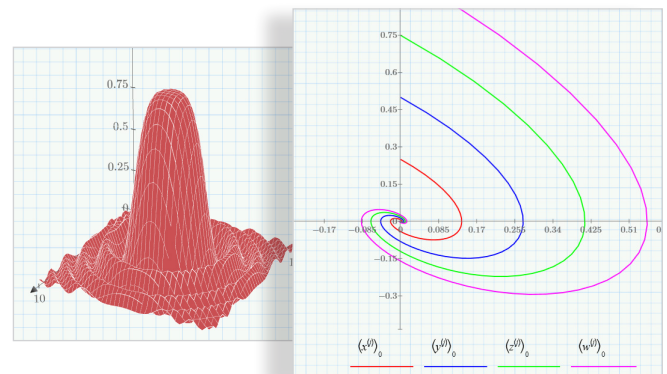
- Curve fitting and smoothing
- Data analysis and statistics
- Design of experiments
- Signal and image processing
- Fourier transform
- Digital filtering
- File Access



Data Visualization

Seeing is believing.

- XY plots
 - scatter, line, column, bar, stem, waterfall, error, box, and effects
- 3-D plots
- Polar plots
- Contour plots



PTC Mathcad Prime 4.0:

- Content Protection: share your calculations without exposing your IP
- Interoperability with 3rd-party applications: MS Word and others
- Improved usability: equation wrapping
- Improved performance: manage large worksheets more effectively

If you can't access and share your calculations securely, you don't have an asset.

What you have is buried treasure.



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To learn more about PTC Mathcad, please visit: ptc.com/product/mathcad

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