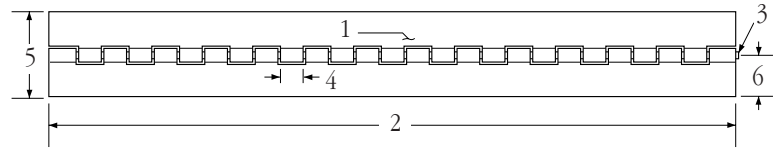


# Continuous and Spring Hinge Design Form

Use this form to describe the hinge you need, so we at Guden can make the proper recommendation and price quotation.

**Fill in and Fax to 631-737-2933.** In order to save you time, please use or photocopy this form, fill out this side, and fax it to us. If you have any questions just call 800-344-6437 and one of Guden's Customer Service Representatives will be happy to help you out. **See our catalog for part numbers, dimensions, configurations, materials and to contact your local representatives.**



1. Company: \_\_\_\_\_
2. Your Name: \_\_\_\_\_
3. Your Position: \_\_\_\_\_
4. Address: \_\_\_\_\_  
\_\_\_\_\_
5. Telephone: \_\_\_\_\_
6. FAX: \_\_\_\_\_

## Design Specifications For Continuous and Spring Hinges

1. Description of Application (Environment, Door and Base Material, No. of Cycles):  
\_\_\_\_\_  
\_\_\_\_\_
2. Mounting Restrictions, if any:  
\_\_\_\_\_  
\_\_\_\_\_
3. Action:  
Please indicate if the hinge must be completely free-acting or swing with little resistance or any other special considerations.  
\_\_\_\_\_  
\_\_\_\_\_

- 4. Dimensions (inches):**  
(See page 4 in Guden catalog for nomenclature)
- |                         |                         |
|-------------------------|-------------------------|
| 1) Leaf Thickness _____ | 4) Knuckle Length _____ |
| 2) Length _____         | 5) Open Width _____     |
| 3) Pin Diameter _____   | 6) Leaf Width _____     |

5. Leaf Swaging (See page 5 of the Guden catalog):  
\_\_\_\_\_
6. Pin Type (See page 6 of the Guden catalog):  
\_\_\_\_\_

7. Material (See page 5 and product tables in the Guden catalog):  
\_\_\_\_\_
8. Finish (See page 5 and product tables in the Guden catalog):  
\_\_\_\_\_

9. Annual Quantity: \_\_\_\_\_  
Release Quantity/How often: \_\_\_\_\_
10. How many in-lb. \_\_\_\_\_ Degree of Arc \_\_\_\_\_ (Spring Hinges Only – See the torque value chart on reverse side for standard springs):

11. Rate (Spring Hinges Only): \_\_\_\_\_
12. Door (Spring Hinges Only): Position of Spring \_\_\_\_\_  
Size (W x H) \_\_\_\_\_ Maximum Opening Angle \_\_\_\_\_  
Weight \_\_\_\_\_ Mounted Vertically or Horizontally \_\_\_\_\_  
Center of Gravity \_\_\_\_\_

13. Hinge Action (Spring Hinge Only):  
 Hold Door Open                       Hold Door Closed

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**800-344-6437**, 631-737-2900  
 Fax: 631-737-2933, info@guden.com  
 www.guden.com

**Guden**  
 Overnight Design. Overnight Delivery.

Registered to ISO 9002  
 Certificate No. A1775



# Design Advantages, Considerations and Methods

## CONTINUOUS HINGES

### Design Advantages

The continuous hinge has excellent qualities as a versatile fastener. These include:

1. Uniform strength throughout the entire length.
2. Smooth pivotal action.
3. Easier and more accurate alignment than two or more butt hinges.
4. No mortising required.
5. Many load-bearing points (equal to the number of knuckles per leaf).
6. Increased rigidity.
7. Almost any length, width, thickness or material.
8. Many secondaries available for customization: holes, offsets, PEM® fasteners and finishes.
9. Stock parts available in steel, stainless steel (304 and 316), aluminum (stamped and extruded) and brass.

### Three Design Methods

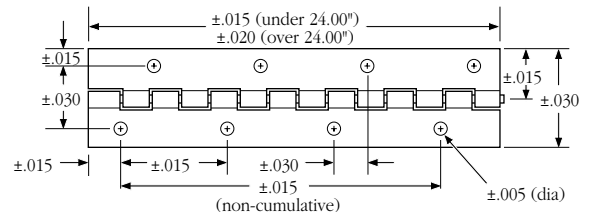
1. Modify a stock hinge: cut down a standard length, punch holes in choice of size, spacing and shape — round, square, rectangular, obround — countersunk or plain. Best for small quantities, rush delivery or experimental samples.
2. Secondary operations on a custom-run base hinge: run the base hinge in a hand blank and curl operation (usually for heavier weights) or on a scrapless automatic line (for lighter weights). Finish with offset or swaged leaves, rounded corners, stamped part numbers, PEM® fasteners, springs, staked and spun pins, holes, etc. The most common method for moderate quantities, takes longer than method No. 1.
3. Full custom manufacture: scrapless automatic production with custom-made tools. Eliminates the need for secondary operations. Longer lead time on first order. Quick production and lowest cost on reorders of large quantities.

### Design Considerations

Keep these factors in mind for optimal performance at an economical cost:

1. Select a standard product from our catalog. We have over 600 items from which to choose.
2. For most items (up to .074 thick) it is most economical to choose an even multiple of knuckle length. For heavier items that are hand blanked and curled, this is less important. We may suggest a different knuckle length, number of knuckles or overall hinge length to afford you the optimum economy.
3. Partial end knuckles on lighter hinges (below .074) can bind because they may be deformed in the cut off operation.
4. Unequal leaves on lighter hinges should have a total open width equal to a standard width. For example, leaves of .50 and 1.50 (2.00 total - a standard) are preferable to .50 and .625 (1.125 total).
5. Use the same thickness hinge leaf as the door or base material. Exceptions are recommended when the width of the door is more than twice the height, or if a device mounted on the door doubles the moment of the door.

6. A 2:1 ratio of pin diameter to leaf thickness usually provides optimum strength. For example, a .120 diameter pin with a .060 leaf.
7. Most stock hinges are supplied with the pins not staked in place, except those noted in our catalog with an asterisk. Custom hinges cut down to less than 4" are normally staked in place.
8. Standard tolerances for hinges made with secondary finishing operations are shown below. If you require tighter tolerances for your application, we may be able to meet your requirements with special fixtures or tooling.



## SPRING HINGES

### Three Design Methods

1. Modify a stock hinge with the addition of a spring. Best for small quantities, rush delivery or experimental samples.
2. Secondary operations on a custom-run base hinge: run the base hinge and add a spring and other features. The most common method for moderate quantities, takes longer than method No. 1.
3. Full custom manufacture: scrapless automatic production with custom-made tools. Eliminates the need for secondary operations. Long lead time on first order. Quick production and lowest cost on reorders of large quantities.

### Design Considerations

Keep these spring hinge factors in mind for optimal performance at an economical cost:

1. Select a standard spring hinge from our catalog.
2. Select a standard product from our catalog and add a spring. For most items (up to .074 thick) it is most economical to choose an even multiple of knuckle length, with a minimum of five knuckles: two knuckles for each leaf and one for the spring.

### Spring Torque Values for Standard Guden Spring Hinges

Following are the spring torque values for standard Guden spring hinges, at 180°. Use these as reference for your selection of standard springs, or as a guide to the torque you require.

Guden Part No.	Torque at 180°
NHPS1114	.405 in-lbs
NHSTS1114	.620 in-lbs
NHPS1115	.678 in-lbs
NHSTS1115	.678 in-lbs
NHPS1116	.744 in-lbs
NHSTS1116	.815 in-lbs
1643-02	.181 in-lbs
STS1643025	.215 in-lbs
STS1643035	.270 in-lbs

- Tolerance +/- 10%
- Special torque ratings are available upon request.
- PEM® is the registered trademark of Penn Engineering & Mfg. Co.
- For even more controlled motion, see our GGSX Gas Spring catalog.