



## **D - RING**

### **PRODUCT INFORMATION AND INSTALLATION BROCHURE**



### **Introduction**

Our D-Rings are manufactured from high quality stainless steel wire and they are useful when a pool has limited decking space for standard anchor-spring installation, you may wish to substitute D-Ring for spring. The D – Ring could be attached to the swimming pool cover strap the same way that you would attach a spring with the help of stainless steel buckle or sewn to the cover. A D-Ring takes up less space when used on a strap in conjunction with a buckle. However, if D-Ring is directly engaged on Brass Anchor Insert, it provides no tension for the cover, and therefore should only be used sparingly in this manner.

### **Corrosion resistance**

Our D-Rings are manufactured from good quality stainless steel wire and electroplated to provide corrosion resistance, thus suitable for use near water and most other chemicals used in swimming pool maintenance.

### **Quality**

For manufacturing these products, we bring into process raw materials of high grade and are processed to give a shape in best industrial conditions.

### **Packing options**

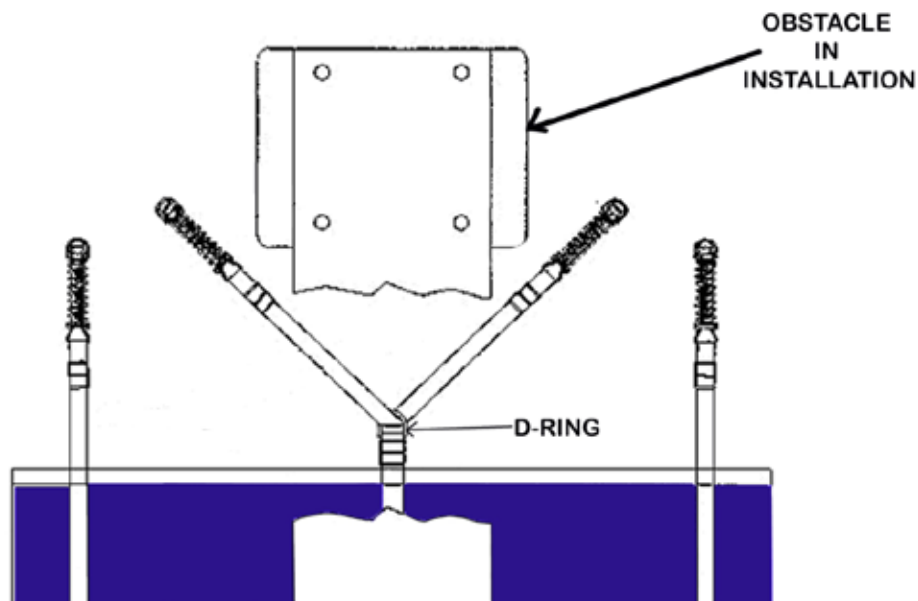
Standard packing is individual wrapping.

## **IMPORTANT:**

This product brochure gives information only on how to best use D - Ring for attaching spring to swimming pool cover strap or in situations where a pool has limited decking space for standard anchor-spring installation. Please refer to the installation manual that came with your swimming pool safety cover or ask your swimming pool safety cover provider or manufacturer for further information on the same. For additional general guidance on installation of swimming pool safety cover you can download our swimming pool safety cover installation guidance pdf from our download section. Suzy International holds no responsibility for Guarantee or Warranty voidance due to improper installation of your swimming pool safety cover or any other possible reasons that affects you Guarantee or Warranty, and also any other consequences arising during or after installation of your swimming pool safety cover. Information provided here by Suzy International is with sole intention to demonstrate different ways of installation of swimming pool safety cover hardware and Suzy International has nothing to do with Guarantee or Warranty policy of individual companies selling swimming pool safety cover. Please refer to Disclaimer of Suzy International before beginning installation procedure of you swimming pool safety cover.

## **USE OF D - RING WHEN A POOL HAS LIMITED DECKING SPACE OR OBSTACLE NOT PERMITTING FOR STANDARD ANCHOR-SPRING INSTALLATION**

The D – Ring could be attached to the swimming pool cover strap with the help of stainless steel buckle or sewn to the cover strap. Pass an additional strap from the D – ring and attach springs on both the ends of this strap with the help of stainless steel buckles as shown in the diagram. These springs are engaged on brass anchor inserts in usual manner. This is a practical solution in situations where swimming pool cover installation involves any obstacle like dive stand. This kind of arrangement provides tension to the cover while avoiding obstacle.



Alternatively D – Ring can be attached to the swimming pool cover strap with the help of stainless steel buckle or sewn to the cover strap and engaged directly on brass anchor insert.

## **GENERAL INFORMATION ABOUT MOST COMMONLY USED MATERIALS BY SUZY INTERNATIONAL FOR MANUFACTURING D – RING**

(Customer ordering large quantities can choose any one material type from below or specify any specific material requirements at the time of ordering)

**Material Types:** 300 Series Austenitic Stainless Steel  
Type 302  
Type 304  
Type 304L

**Material Group:** Stainless Steel Wire

### **Stainless Steel Description:**

Our D- Rings are manufactured from austenitic stainless steel type 302,304 or 304L. Austenitic stainless steels are iron-chromium-nickel alloys which are hardened only by cold working. Nickel is the main element carried within the alloys of this class while carbon is kept to low levels. The nickel content may be varied from about 4% to 22% - higher values of nickel are added to increase ductility of the metal. When chromium is increased to raise the corrosion resistance of the metal, nickel must also be increased to maintain the austenitic structure.

These alloys are slightly magnetic in the cold-worked condition, but are essentially non-magnetic in the annealed condition in which they are most often used. The austenitic types feature adaptability to cold forming, ease of welding, high-temperature service and in general, the highest corrosion resistance. Surface of these stainless steels may have a residue of nickel. This is normal and will not affect the function of the part.

Following are brief descriptions of some of the most commonly used materials by Suzy International for manufacturing D-RINGS :

**Type 302** stainless steel is a general purpose material with greater corrosion resistance but less work hardening than type 301. This is the basic alloy of the austenitic group often referred to as 18:8 stainless steel.

**Type 304** stainless steel has lower carbon to minimize carbide precipitation. It is less heat sensitive than other 18:8 stainless steels. Used in high-temperature applications.

**Type 304L** stainless steel has an extra low carbon content to avoid harmful carbide precipitation in welding applications. Its corrosion resistance is comparable to type 304.

### Typical Analysis in Percent

Type#	UNS#	C	Cr	Ni	Mn	Si	S	P	Mo
302	S30200	.15	17-19	8-10	2.0	1.0	.03	.04	
304	S30400	.08	18-20	8-12	2.0	1.0	.03	.04	
304 L	S30403	.03	18-20	8-12	2.0	1.0	.03	.04	

(Percent maximum unless stated as a range or minimum)

Other impurities do not preclude the possible presence of other unnamed elements. However, analysis shall be regularly made only for the alloying elements listed in the table. The major element that is not analyzed shall be determined by difference between the sum of those elements analyzed and 100 percent. By agreement between the manufacturer and the purchaser, the limits may be established for elements not specified and analysis done.

### Typical Physical Properties

Type#	Density lb/in <sup>3</sup>	Specific Heat BTU/ °F/lb 0-100 °C	Thermal Conductivity BTU/Ft <sup>2</sup> /Ft/ Hr/°F 100 °C	Coefficient of Thermal Expansion Per °F x 10 <sup>-6</sup> 0-100 °C	Electrical Resistivity Microhm-cm 21 °C	Magnetic Permeability (Annealed) μ
302	.29	.12	9.4	9.6	72.0	1.008
304	.29	.12	9.4	9.6	70.0	1.008
304 L	.29	.12	9.4	9.6	70.0	1.008

### Typical Mechanical Properties

(Annealed Cond.) Type#	Tensile Strength 1000Psi	Yield Strength 1000 Psi	Elongation in 2 Inches, %	Reduction of Area, %	Brinell Hardness
302	90	40	55	70	150
304	85	35	55	70	150
304L	80	30	55	70	140

## Disclaimer

some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. All materials specifications are provided for general reference purposes only. Material specification may vary or be subjected to change. This information is provided “as is” and Suzy International makes no warranty of any kind with respect to the subject matter or accuracy of the information contained herein. Suzy International specifically disclaims all warranties, expressed, implied or otherwise, including without limitation, all warranties of merchantability and fitness for a particular purpose. In no event shall Suzy International be liable for any special, incidental, indirect or consequential damages of any kind or any damages whatsoever resulting from loss of use, data, profits, whether or not advised of the possibility of damage, and on any theory of liability, arising out of or in connection with the use of the information contained herein. This publication may include technical inaccuracies or typographical errors. Changes may be periodically made to the information herein.

## Custom D-Ring Design:

D – Ring design considerations are numerous. Our Engineers can assist you in your design efforts if you just provide a few basic design parameters.

To request for exact dimensions or technical information for this product, please contact:  
[techinfo@suzyinternational.com](mailto:techinfo@suzyinternational.com)

## **Suzy International provides following additional services to their customers as a routine:**

- Suzy International is a manufacturer and hence apart from our standard products, we can also customized and provide product according to our customer's specification and design.
- We provide customized labeling on product as well as on packaging and we have different packing options with standard size wooden pallet for handling and storage efficiency.
- We have a team of highly qualified engineers and technical staff that provides technical support to our customers in developing new product or designs.
- We have a dedicated team that gives you prompt response regarding any issue arising while the product is in the manufacturing process, or in transit or even after delivery.
- We have varied shipping options in order to cater to the customer's specific transportation needs – from our factory to customer's desired destination.

Suzy International assures complete peace of mind for their customers, by handling virtually all the parameters and aspects – right from customer placing an order to receipt of finished goods at customer's end.

## **OUR PRODUCTS**

### **BRASS ANCHORS**

Standard Concrete Brass Anchor  
Single Knurling Concrete Brass Anchor  
Double Knurling Concrete Brass Anchor  
Single Twist Pop-up Concrete Brass Anchor  
Wood Deck Brass Anchor

### **DRAWBAR COMPRESSION SPRINGS**

Heavy Duty Large Spring  
Heavy Duty Small Spring  
Medium Duty Large Spring  
Medium Duty Small Spring  
Heavy Duty Double Coil Spring  
Medium Duty Double Coil Spring

## **ALUMINIUM GARDEN SPIKE/STAKES**

Aluminium Garden Spike

Standard Aluminium Pipe Anchor Assembly

Tapered End Aluminium Pipe Anchor Assembly

Crimped Head Aluminium Pipe Anchor Assembly

## **MISCELLANEOUS PRODUCTS**

S.S. Buckle

Aluminium Cup

D-Ring

Square Ring

Brass Anchor Collar

Small Spring Cover

Large Spring Cover

Double Coil Spring Cover

Large Wall Anchor Bolt

Small Wall Anchor Bolt

Thunder Bolt

Allen Wrench

Temping Tool Standard

Temping Tool Aluminium

Installation Rod

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