



## **DOUBLE KNURLING CONCRETE BRASS ANCHOR**

PRODUCT INFORMATION AND INSTALLATION BROCHURE



### **Introduction**

Our Double Knurling Concrete Brass Anchors are made from solid brass and are used for anchorage in areas like concrete or cement and other stable flat anchoring surfaces near pool site for fastening swimming pool safety covers. This is the most conventional anchoring hardware used for fastening swimming pool safety covers in the industry.

### **Highly reliable in handling overload situations**

We use high grade extruded brass bars and machine them to perfection for manufacturing our Double Knurling Concrete Brass Anchors. Extrusion brass bars provide high modulus of elasticity, high elongation at break and high ultimate tensile strength compared to those manufactured with cast metal brass bars. This ensures high reliability in functioning and capability of handling overload situations of our Double Knurling Concrete Brass Anchors.

### **Long functional life and endurance**

Since our Double Knurling Concrete Brass Anchors are manufactured from high grade extrusion brass bars, the material is less porous and less brittle with high tensile strength compared to those manufactured with cast metal brass bars. This property of extrusion brass provides long functional life and additional endurance to the product.

## Ease of Use

These Screw Type Concrete Brass Anchors are easy to install and the Brass Anchor Insert can be raised by rotating with the help of an Allen wrench within seconds and can stay recessed with deck surface when not in use.

## Corrosion resistance

Our Double Knurling Concrete Brass Anchors are made from high grade, less porous solid brass and are electroplated (optional) to provide additional 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

Number of customized packing options are available including vacuum formed plastic trays or individual wrapping.

## Optional



In case of spalling or chipping near drilled hole for receiving Brass Anchor in concrete deck, this is a great option. Brass Anchor Collar hides the spalled or chipped edges of cement or concrete deck surface near drilled hole and beautifies your deck.

## **IMPORTANT:**

It is very important to determine and mark the exact location of anchor hole for Installation of Double Knurling Concrete Brass Anchor before installation procedure begins. This product brochure gives information only on how to best install Double Knurling Concrete Brass Anchor in stable surfaces like cement or concrete. For choice of appropriate anchor device and determining and marking the exact location for installation of this product, 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 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.

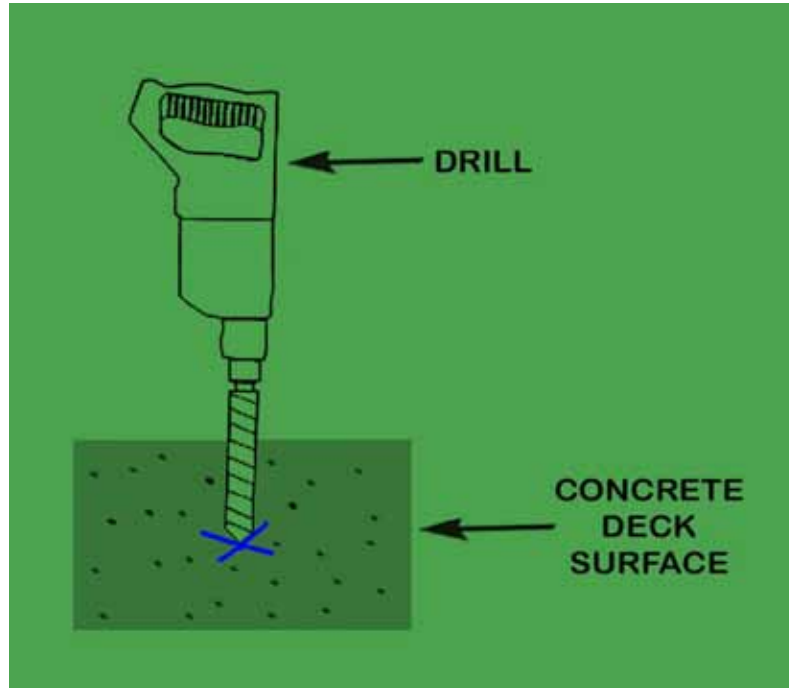
## **INSTALLATION**

### **TOOLS REQUIRED FOR INSTALLATION**

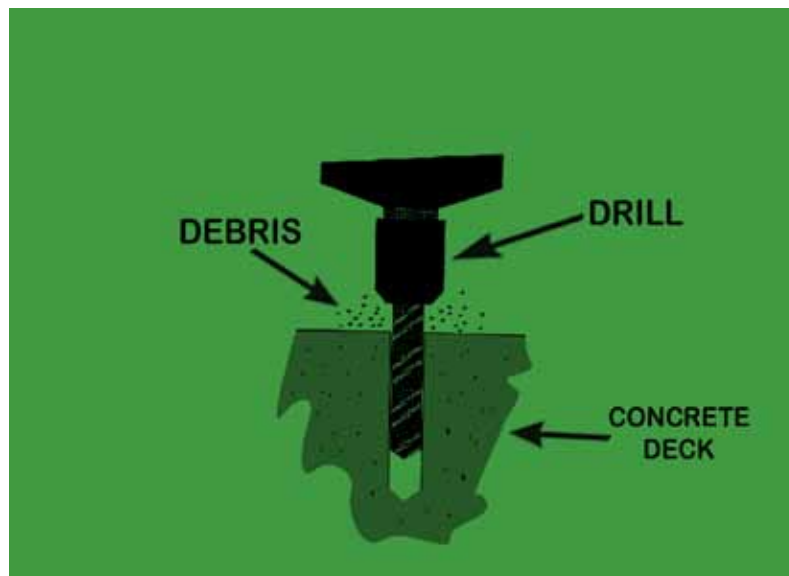
- Heavy Duty Rotary Hammer Drill
- $\frac{3}{4}$ " Concrete drill bit with long shaft (carbide / diamond tipped)
- Tape measure
- Temping tool
- Hammer or mallet
- Lubricant – Teflon or silicone spray

## **ANCHOR HOLE DRILLING**

Once you have determined and marked the exact locations of Anchor hole, you can drill holes to accept the Anchor Shells. Measure the drill bit beveled depth. Then add 1  $\frac{3}{4}$ " (height of anchor shell). Mark this measurement onto your drill bit with electrical tape or use drill guide. Drill the hole into the deck **NO MORE THAN THE DEPTH** of the Brass Anchor Shell taking care not to over-ream the diameter of the hole. If this does happen, simply apply some adhesive to the Brass Anchor Shell before setting it into the hole. Drilling dust can be removed with a vacuum cleaner or carefully blown out.



**START DRILLING ON MARKED ANCHOR HOLE POSITION**



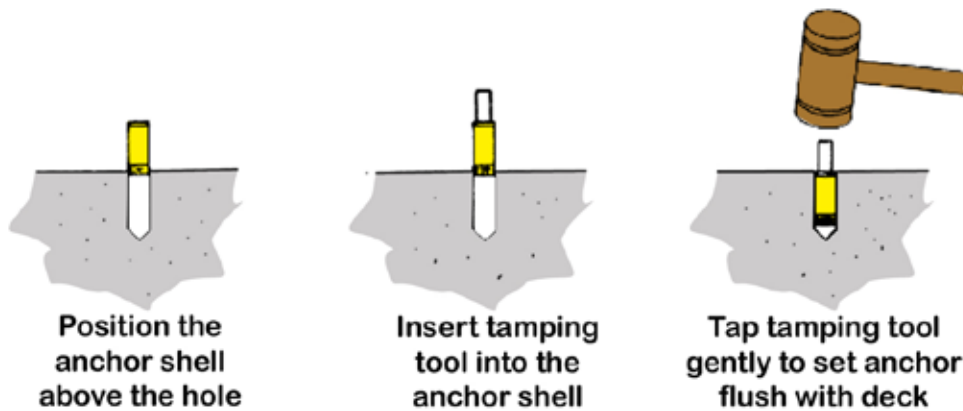
**HOLE DRILLED TO A DEPTH OF 1 ¾" + BEVEL DEPTH**

Due to the nature of poured concrete, some chipping is normal. This chipping can be reduced by using a sharp diamond tip drill bit and a high speed rotary hammer drill. Also Brass Anchor Collar should be considered as an option for hiding chipped edges of deck surface near drilled hole and beautify your deck.



### BRASS ANCHOR INSERT REMOVED

When your anchor hole is properly prepared, remove the Brass Anchor insert and the Brass Anchor Shell can be lightly tamped into position by inserting the tamping tool into the Brass Anchor Shell and temp it into the deck with a hammer or mallet until it is flush with the deck surface.



A light Teflon or Silicone spray on the tamping tool prior to tamping will facilitate its easy removal after insertion of Brass Anchor Shell into the drilled hole. If the tamping tool should become jammed into the Brass Anchor Shell, try gently tapping the tool on the lateral sides to loosen it while pulling in an upward direction.



**BRASS ANCHOR INSERT RAISED**



**BRASS ANCHOR FLUSH WITH THE  
DECK SURFACE**



Note: To facilitate smooth operation it is recommended that anchor inserts be removed each spring and fall and shells flushed out of any dirt. The Brass Anchor Insert may also be lightly coated with a Silicone or Teflon spray to ensure smooth operation. Do not use oil or grease.

## GENERAL INFORMATION ABOUT MOST COMMONLY USED MATERIALS BY SUZY INTERNATIONAL FOR MANUFACTURING DOUBLE KNURLING CONCRETE BRASS ANCHOR

(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:** Free Cutting Brass  
 Type IS 319 – Grade I  
 Type IS 319 – Grade II

**Material Group:** Extruded Brass Rod

### Brass Rod Description:

Our Double Knurling Concrete Brass Anchors are manufactured from Free Cutting Brass, Type IS 319 – Grade I or Type IS 319 – Grade II. Alloys in this group contain Copper and Zinc in approximate proportion. Extrusion bars of free cutting brass are machined to perfection for manufacturing this product. Extrusion brass bars are less porous and less brittle and provide high modulus of elasticity, high elongation at break and high ultimate tensile strength compared to cast metal brass bars. It has a high quality surface finish and high resistance to corrosion on surface exposed to the atmosphere. Free Cutting Brass Type IS 319 – Grade I or Type IS 319 – Grade II generally do not require any protective or decorative coating; the surface supplied is entirely adequate without further finish. It is also resistant to stress-corrosion cracking and can be easily anodized by an electrolytic passivation process which increases corrosion resistance and wear resistance. Anodizing also prevents galling of components.

### Brass Rod Specification

Material	IS/BUS	UK	US	EUROPEAN	-	INTERNATIONAL
Free Cutting	IS 319/89 Grade I	-	CZ121	C385	CW614 N	CuZn39Pb3
Free Cutting	IS 319/89 Grade II	-	CZ124	C360	CW603 N	CuZn39Pb3

## Composition Notes:

Brass content reported is calculated as remainder.

Composition information provided is not for design.

### Chemical Composition

Constituent	Percentage	
	Grade 1	Grade 2
Copper	56.0 - 59.0	60.0 - 63.0
Lead	2.0 - 3.5	2.5 - 3.7
Iron, Max	0.35	0.35
Total Other Impurities (excluding iron) Max	0.7	0.5
Zinc	Remainder	Remainder

### Notes:

1. If required antimony may be restricted to 0.02 percent in Grade 1 alloy
2. Any nickel or silver present is to be counted as copper.
3. 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, plus either copper or zinc. The major elements that is not analysed shall be determined by difference between the sum of those elements analysed 100%. By agreement between the manufacturer and the purchaser, the limits may be established for elements not specified and analysis done.

## MECHANICAL PROPERTIES

### Tensile Properties

Condition	Size		Tensile Strength		Elongation on Gauge Length	
	Over	Upto and including	<i>min</i> , MPa		5.65√A, Percent <i>Min</i>	
			Grade 1	Grade 2	Grade 1	Grade 2
Annealed (O)	6	25	345	325	12	15
	25	50	315	305	17	20
	50	-	285	275	22	25
Half hard (HB)	6	12	405	395	4	7
	12	25	395	385	6	10
	25	50	355	345	12	15
	50	-	325	315	17	20
Hard (HD)	6	12	550	510	-	-
	12	25	490	485	4	-

NOTE 1N/mm<sup>2</sup> = 0.102 Kg/mm<sup>2</sup>=1MPa



<b>Hardness Properties</b>				
Condition	Size		Vickers Hardness(HV)	
	Over mm	Up To And Including mm	Grade 1	Grade 2
Annealed	6	and above	100 max	90 max
	6	12	125-155	120-150
Half Hard	12	25	120-150	115-145
	25	50	110-140	100-130
	50	and above	100-130	90-120
Hard	6	12	160-185	155-185
	12	25	155-180	145-175

**NOTE** For bars and rods above 12mm, hardness should be taken on the cross section midway between surface and center.

**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 or composition may vary or be subjected to change without prior notice. 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 Brass Anchor Design:**

Brass Anchor 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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