



## Technical Note:

### Rubber Stopper Selection and Standard Size Chart.

#### Introduction

Rubber stoppers are a universal closure system for vials, bottles, flasks and carboys of a wide range of sizes and materials of construction. Stoppers are manufactured from natural black rubber but can be colored and are available in materials other than natural rubber. Natural rubber is widely used because it is pliable, autoclavable and resistant to non-aggressive chemicals.

#### Size Chart

The chart below provides top, bottom and length dimensions for all common rubber stopper sizes.

Size	Millimeters			Inches (Approx)		
	Top Diameter	Bottom Diameter	Length	Top Diameter	Bottom Diameter	Length
000	13mm	8mm	21mm	1/2"	5/16"	7/8"
00	15mm	10mm	25mm	5/8"	3/8"	1"
0	17mm	13mm	25mm	11/16"	1/2"	1"
1	19mm	14mm	25mm	3/4"	9/16"	1"
2	20mm	16mm	25mm	13/16"	5/8"	1"
3	24mm	18mm	25mm	15/16"	3/4"	1"
4	26mm	20mm	25mm	1 1/32"	13/16"	1"
5	27mm	23mm	25mm	1 1/16"	7/8"	1"
5.5	28mm	24mm	25mm	1 1/8"	15/16"	1"
6	32mm	26mm	25mm	1 1/4"	1"	1"
6.5	34mm	27mm	25mm	1 3/8"	1 1/6"	1"
7	37mm	30mm	25mm	1 1/2"	1 3/16"	1"
8	41mm	33mm	25mm	1 5/8"	1 5/16"	1"
9	45mm	37mm	25mm	1 3/4"	1 1/2"	1"
10	50mm	42mm	25mm	2"	1 5/8"	1"
11	56mm	48mm	25mm	2 3/16"	1 7/8"	1"
12	64mm	54mm	25mm	2 1/2"	2 1/8"	1"
13	68mm	58mm	25mm	2 11/16"	2 1/4"	1"
14	90mm	75mm	39mm	3 1/2"	3"	1 1/2"
15	103mm	83mm	39mm	4 1/16"	3 1/4"	1 1/2"
16	127mm	90mm	39mm	5"	3 1/2"	1 1/2"

## Selecting the Correct Size Stopper

- Measure the glassware opening using a ruler or a caliper across the inner edge of the container mouth to obtain an accurate diameter
- Compare the measurement obtained to the chart and match the diameter of the stoppers top and bottom dimensions to ensure a tight fit.
- Note that longer stoppers provide for a tighter seal for deeper openings
- Select the appropriate material type for the stopper
- Using the correct sized rubber stopper ensures leak free sealing, prevents contamination and provides optimal performance.

### **Tip.**

Always select a stopper that is slightly larger than the container opening to ensure a secure seal

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