

# VENTILATION TUBES



# MICROGEL™

Surface-Enhanced Silicone Vent Tubes



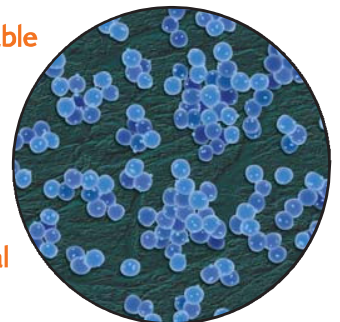


## Reduces bacterial adherence by more than 90%

Myringotomy tube failure and premature extrusion can often be linked to the adherence and proliferation of bacteria on the surface of the material. Silicone substrates are especially prone to bacterial attachment because of their inherent surface morphology.<sup>1</sup>

**Microgel™ Surface-Enhanced Silicone Vent Tubes** have a modified polyvinylpyrrolidone (PVP) hydrogel coating. The patented Microgel process increases the surface energy of silicone, reducing the attachment of microbial pathogens.<sup>2</sup> Bacterial adherence assays have shown that the Microgel surface enhancement reduces the occurrence of bacterial adherence by more than 90%.

**Microgel™ vent tubes are available in a variety of designs with the patented, modified polyvinylpyrrolidone (PVP) hydrogel coating. This surface enhancement reduces bacterial adherence by more than 90%.**



*Staphylococcus epidermidis*

## Composition

**Microgel™ is covalently bonded to the surface of silicone for uniform and long-lasting surface characteristics.**

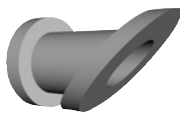
<sup>1</sup>Karlan, M.S. Myringotomy Tube Materials: Bacterial Adhesion and Infection.

*Otolaryngol Head Neck Surgery*. 1980; 88:783-795.

<sup>2</sup>Dunkirk, S.G., et al. Photochemical Coatings for the Prevention of Bacterial Colonization. *Journal of Biomaterials Applications*. 1991; 9:131-156.

## Armstrong Beveled Grommets

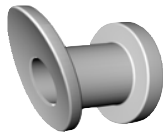
Designed by Beverly W. Armstrong, MD, Charlotte, NC



Material	ID	IFD	Product#
Fluoroplastic, Green, 5/box	1.14	3.5	10-10030
Fluoroplastic, Green, 50/box	1.14	3.5	10-10031
Fluoroplastic, Green w/wire, 5/box	1.14	3.5	10-10035
Activent® Fluoroplastic, 5/box	1.14	3.5	10-30030
Microgel™, w/Tab, Green, 5/box	1.14	3.5	2550-1
Microgel™, w/Tab, Green, 5 pr/box	1.14	3.5	2550-2
Activent® Silicone, 5/box	1.14	3.5	10-26055
Activent® Silicone, 5 pr/box	1.14	3.5	10-46055
Firm Silicone, w/Tab, 5/box	1.14	3.5	2450-1
Firm Silicone, w/Tab, 5 pr/box	1.14	3.5	2450-2
Silicone, 5/box	1.14	3.5	10-10055
Silicone, 50/box	1.14	3.5	10-10056
H/C-Flex, 5/box	1.14	3.5	10-56032
H/C-Flex, 5 pr/box	1.14	3.5	10-66032
H/C-Flex, 50/box	1.14	3.5	10-76032

## Modified Armstrong Beveled Grommets

Designed by Beverly W. Armstrong, MD, Charlotte, NC



Material	ID	IFD	Product#
Fluoroplastic, White, 5/box	1.14	3.5	1442-1
Fluoroplastic, White, 5/box	1.14	3.5	10-14242
Fluoroplastic, White, 50/box	1.14	3.5	10-14243
Fluoroplastic, White, 5pr/box	1.14	3.5	10-40024
Fluoroplastic, Green, 5/box	1.14	3.5	10-10170
Fluoroplastic, Green, 50/box	1.14	3.5	10-10171
Fluoroplastic, Green, 5 pr/box	1.14	3.5	10-40045
Activent Fluoroplastic, 5/box	1.14	3.5	10-30170
Microgel™, Blue, 5/box	1.14	3.5	10-81101
Microgel™, Blue, 5pr/box	1.14	3.5	10-81102
Microgel™, Blue, 50/box	1.14	3.5	10-81103

## Armstrong V Grommets

Designed by Beverly W. Armstrong, MD, Charlotte, NC



Material	ID	IFD	Product#
H/C-Flex, 5/box	1.14	2.1	10-56033
H/C-Flex, 5 pr/box	1.14	2.1	10-66033

## Baxter Beveled Buttons

Designed by David Baxter, RN, Boston, MA



Material	ID	IFD	L	Product#
Fluoroplastic, White, 5/box	1.27	3.0	2.1	1461-1
Fluoroplastic, White, 5 pr/box	1.27	3.0	2.1	1461-2
Fluoroplastic, White, 5/box	0.97	2.3	1.6	1462-1
Fluoroplastic, White, 5 pr/box	0.97	2.3	1.6	1462-2
Activent® Fluoroplastic, 5/box	1.27	3.0	2.1	3461-1
Activent® Silicone, 5/box	1.27	2.6	2.1	2663-1
Firm Silicone, 5/box	1.27	2.6	2.1	2463-1
Firm Silicone, 5pr/box	1.27	2.6	2.1	2463-2

## Goode T-Grommets

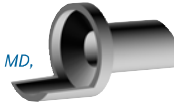
Endorsed by Richard L. Goode, MD, Palo Alto, CA



Material	ID	FL	IFD	Product#
Silicone, 5/box	1.27	8.5	2.5	10-16020
Silicone, w/ Membrane, 5/box	1.27	8.5	2.5	10-16025
Activent® Silicone, 5/box	1.27	8.5	2.5	10-26011

## Hubbard Airplane Tube

Endorsed by Ron Hubbard, MD, Memphis, TN  
Acknowledgement to Joseph B. Touma, MD, Huntington, WV



Material	ID	IFD	Product#
Fluoroplastic, White, 5/box	0.76	2.0	10-56170

## Lindeman-Silverstein Arrow

Designed by Roger C. Lindeman, MD, Seattle, WA; and Herbert Silverstein, MD, Sarasota, FL



Material	ID	IFD	L	Product#
Fluoroplastic, Green, 5/box	1.14	3.0	4.7	10-21000

## Moretz Tab Tubes

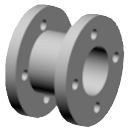
Endorsed by William H. Moretz, Jr., MD, Augusta, GA



Material	ID	IFD	Product#
Microblue® Titanium, w/Tab, 5/box	1.27	1.0	1464-1
Microblue® Titanium, w/Tab, 5 pr/box	1.27	1.0	1464-2
Tytan® Titanium, 5/box	1.02	1.0	10-56104
Tytan® Titanium, 5/box	1.27	1.0	10-56107
Tytan® Titanium, 5pr/box	1.27	1.0	10-66107
Tytan® Titanium, 5/box	0.76	1.0	10-56108
Tytan® Titanium 5 pr/box	0.76	1.0	10-66108
Tytan® Titanium, w/ Wire, 5/box	1.27	1.0	10-56113
Tytan® Titanium, w/ Wire, 5 pr/box	1.27	1.0	10-66113
Activent® Fluoroplastic, 5/box	1.27	1.0	10-36177
Fluoroplastic, white, 5/box	1.27	1.0	10-56177
Fluoroplastic, white, 5 pr/box	1.27	1.0	10-66177
H/C-Flex, 5/box	1.27	0.75	10-56705

## Reuter Bobbins

Designed by S. Harold Reuter, MD, Houston, TX



Material	ID	IFD	IFD	Product#
Fluoroplastic, White, w/o Holes, 5/box	1.02	2.7	1.1	1412-1
Fluoroplastic, White, w/o Holes, 5 pr/box	1.02	2.7	1.1	1412-2
Fluoroplastic, White, w/o Holes, 5/box	1.14	2.7	1.1	1413-1
Fluoroplastic, White, w/o Holes, 5 pr/box	1.14	2.7	1.1	1413-2
Fluoroplastic, White, w/ Holes, 5/box	1.14	2.7	1.1	1425-1
Fluoroplastic, White, w/ Holes, 5 pr/box	1.14	2.7	1.1	1425-2
Fluoroplastic, Blue, w/ Holes, 5/box	1.14	2.6	1.0	10-10101
Fluoroplastic, Blue, w/ Holes, 50/box	1.14	2.6	1.0	10-10103
Fluoroplastic, Blue, w/o Holes, 5/box	1.14	2.6	1.0	10-10201
Fluoroplastic, Blue, w/o Holes, 50/box	1.14	2.6	1.0	10-10203
Fluoroplastic, Blue, w/o Holes, 5 pr/box	1.14	2.6	1.0	10-10202
Fluoroplastic, Blue, w/ Holes & Wire, 5/box	1.14	2.6	1.0	10-10301
Fluoroplastic, White, w/o Holes, 5/box	1.02	2.6	1.0	10-56162
Activent® Fluoroplastic w/o Holes, 5/box	1.02	2.6	1.0	10-36162
Activent® Fluoroplastic, w/ Holes, 5/box	1.14	2.6	1.0	10-37000
Activent® FLPL w/o Holes, 5/box	1.14	2.6	1.0	10-37005
Stainless Steel, Matte Finish, w/ Holes, 5/box	1.02	2.7	1.0	14181
Stainless Steel, w/ Holes 5/box	1.27	2.7	1.0	14051
Stainless Steel, w/ Holes & Wire, 5/box	1.14	2.6	1.0	10-27040
Stainless Steel, w/ Holes, 5/box	1.02	2.7	1.0	1440-1
Stainless Steel, w/ Holes, 5 pr/box	1.02	2.7	1.0	1440-2
Stainless Steel, w/ Holes, 5/box	1.27	2.6	0.5	10-27010
Stainless Steel, w/ Holes, 5/box	1.14	2.6	1.0	10-27015
Stainless Steel, w/ Holes & Wire, 5 pr/box	1.27	2.7	1.0	1406-2
Stainless Steel, w/ Holes & Wire, 50/box	1.14	2.6	1.0	10-27016
Stainless Steel, w/ Holes, 5 pr/box	1.14	2.6	1.0	10-40041
Titanium, w/o Holes, 5/box	1.27	2.6	1.0	10-27070
Titanium, w/ Holes, 5/box	1.02	2.7	1.0	1611-1
Titanium, w/ Holes, 5/box	1.02	2.7	1.0	1611-2
Titanium, w/ Holes, 5/box	1.14	2.6	1.0	10-27060
Titanium, w/ Holes, 5/box	1.27	2.6	0.5	10-27065
Tytan® Titanium, w/ Holes, 5/box	1.02	2.7	1.0	10-56110
Tytan® Titanium, w/ Holes, 5 pr/box	1.02	2.7	1.0	10-66110
Tytan® Titanium, w/o Holes, 5/box	1.14	2.7	1.0	10-56112
Tytan® Titanium, w/o Holes, 5 pr/box	1.14	2.7	1.0	10-66112
Microblue, Tytan® Titanium w/o Holes, 5/box	1.27	2.7	1.0	1622-1 or 2
Stainless Steel, Microblue, Matte Finish, Titanium, w/ Holes, 5/box	1.14	2.6	1.0	10-27017
Stainless Steel, Microblue, Matte Finish, Titanium, w/ Holes, 50/box	1.14	2.6	1.0	10-27018
Stainless Steel, Microblue, Matte Finish, Titanium, w/ Holes, 5 pr/box	1.14	2.6	1.0	10-40004



## Shepard Grommets



Material	ID	IFD	Product#
Fluoroplastic, Blue, w/ Wire, 5/box	1.02	2.4	10-16501
Fluoroplastic, Blue, w/ Wire, 5 pr/box	1.02	2.4	10-16502
Fluoroplastic, Blue, w/ Wire, 50/box	1.02	2.4	10-16503
Fluoroplastic, Blue, 5/box	1.02	2.4	10-16301
Microgel™, w/Tab, Blue, 5/box	1.02	2.3	10-86601
Microgel™, w/Tab, Blue, 5 pr/box	1.02	2.3	10-86602
Fluoroplastic, Green, w/ Tail, 5/box	1.14	2.4	10-28010
Fluoroplastic, Green, w/ Tail, 5 pr/box	1.14	2.4	10-40055
Fluoroplastic, Green, w/ Tail, 50/box	1.14	2.4	10-28011
Fluoroplastic, Blue, w/ Wire, 5/box	1.14	2.4	10-16201
Fluoroplastic, Blue, w/ Wire, 50/box	1.14	2.4	10-16203
Fluoroplastic, w/ Tab, 5/box	1.14	2.4	10-28015
Firm Silicone, w/ Tab, 5/box	1.02	2.3	2420-1
Firm Silicone, w/ Tab, 5 pr/box	1.02	2.3	2420-2
Fluoroplastic, Blue, w/ Tab, 5/box	1.14	2.4	10-16101
Fluoroplastic, Blue, w/ Tab, 5 pr/box	1.14	2.4	10-16102
Fluoroplastic, Blue, w/ Tab, 50/box	1.14	2.4	10-16103
Fluoroplastic, White, 5/box	1.14	2.5	10-56154
Fluoroplastic, White, 5 pr/box	1.14	2.5	10-66154
Fluoroplastic, White, 5/box	1.02	2.5	10-56155
Fluoroplastic, White, 5 pr/box	1.02	2.5	10-66155
Fluoroplastic, White, w/ Wire, 5/box	1.14	2.5	10-56157
Activent® Fluoroplastic, w/ Wire, 5/box	1.14	2.4	10-38012
Activent®, Silicone, w/ Tail, 5/box	1.14	2.3	10-26025
Activent®, Silicone, w/ Tail, 5 pr/box	1.14	2.3	10-46025
Silicone, w/ Tail, 5/box	1.14	2.3	10-28025
Silicone, w/ Tail, 50/box	1.14	2.3	10-28026

## Soileau Tytan® Titanium

Endorsed by James S. Soileau, MD, Gonzales, LA



Material	ID	IFD	Product#
Tytan® Titanium, 5/box	1.27	2.75	10-56111
Tytan® Titanium, 5 pr/box	1.27	2.75	10-66111
Tytan® Titanium, 50/box	1.27	2.75	10-76111

## Spoon Bobbins



Material	ID	IFD	Product#
Tytan® Titanium, 5 pr/box	1.27	2.7	10-66106
Tytan® Titanium, 5/box	1.02	2.7	10-56109
Tytan® Titanium, 5/box	1.27	2.7	10-56106
Stainless Steel, w/ Holes, 5 pr/box	1.02	2.7	1400-2

## Armstrong Beveled Straight Shanks

Designed by Beverly W. Armstrong, MD, Charlotte, NC



Material	ID	IFD	L	Product#
Fluoroplastic, Green, 5/box	1.14	3.6	10.0	10-10150
Fluoroplastic, Green, 5/box	1.14	3.6	8.0	10-10005
Fluoroplastic, Green, 5/box	1.14	3.6	7.0	10-10000
Fluoroplastic, Green, 5 pr/box	1.14	3.6	7.0	10-40022
Silicone, 5/box	1.14	3.6	12.0	10-10050
Activent® Silicone, 5/box	1.14	3.6	7.0	10-26140
Silicone, 5/box	1.14	3.6	7.0	10-10040
Silicone, 5/box	1.14	3.6	10.0	10-10045

## Armstrong V Tubes

Designed by Beverly W. Armstrong, MD, Charlotte, NC



Material	ID	L	Product#
Fluoroplastic, White, 5/box	1.14	7.5	10-56120
Fluoroplastic, White, 5 pr/box	1.14	7.5	10-661202
Fluoroplastic, White, 5/box	1.14	4.5	10-56121
Fluoroplastic, White, 5 pr/box	1.14	4.5	10-661212
Activent® Fluoroplastic, 5/box	1.14	4.5	10-36121
H/C-Flex, 5/box	1.14	7.5	10-56030
H/C-Flex, 5/box	1.14	4.5	10-56031

## Goode T-Tubes®

Designed by Richard L. Goode, MD, Palo Alto, CA



Material	ID	FL	L	Product#
Microgel™, Silicone, Blue, 5/box	1.14	9.8	12.0	10-87701
Microgel™, Silicone, Blue, 5 pr/box	1.14	9.8	12.0	10-87702
Activent® Silicone, 5/box	1.14	9.5	12.0	10-26010
Activent® Silicone, Blue, 50/box	1.14	9.5	12.0	10-37703
Biolite-coated Silicone, 5/box	1.14	9.5	12.0	10-11030
Silicone, 5/box	1.14	9.5	12.0	10-16010
Silicone, 50/box	1.14	9.5	12.0	10-16011
Silicone, 5 pr/box	1.14	9.5	12.0	10-40001
Firm Silicone, 5/box	1.14	9.5	12.0	10-16035
Firm Silicone, 5 pr/box	1.14	9.5	12.0	2471-2
Firm Silicone, 5/box	1.14	6.0	6.0	2475-1
Firm Silicone, 5 pr/box	1.14	6.0	6.0	2475-2
C-Flex, 5/box	1.14	9.0	12.0	10-56015
C-Flex, 5/box	1.14	6.5	6.0	10-56016
C-Flex, 5 pr/box	1.14	6.5	6.0	10-66016
C-Flex, 5/box	1.14	8.0	9.0	10-56019

## Hoffman Permanent Vent Tubes



Material	ID	L	Product#
Titanium, w/HA & Fluoroplastic, w/ Liner, 1/box	1.65	8.3	10-28080
Fluoroplastic, Inner Liner Only, 5/box	1.25	13.4	10-28081

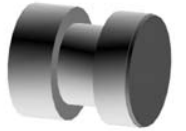
## Permanent Aeration Tubes



Material	ID	FL	L	Product#
Silicone, Fluoroplastic Stylet, 5/box	1.14	3.5	12.0	10-28065
Silicone, 5/box	1.14	3.5	7.0	10-28070

## Semi-Permeable Membrane Tubes

Silicone w/ Fluoroplastic Membrane



Material	ID	IFD	IFDis	Product#
Donaldson, 5/box	1.14	2.3	0.9	10-12015
Goode T-Grommet, Silicone, 5/box	1.27	8.5	2.5	10-16025
Paparella, 5/box	1.14	4.3	0.9	10-12010
Sheehy, 5/box	1.27	2.8	1.32	10-12050

## Kartush Tympanic Membrane (TM) Patcher

Designed by Jack M. Kartush, MD, Farmington Hills, MI



Material	DIA	CD	Product#
Silicone, 1/box	3.0	0.9	14-16000
Silicone, 1/box	5.0	1.1	14-16010
Silicone, 1/box	7.0	1.3	14-16020
Silicone	10.0	1.4	14-16030

### Touma Beveled T-Grommet

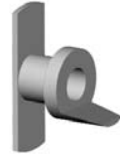
Endorsed by Joseph B. Touma, MD,  
Huntington, WV



Material	ID	IFD	Product#
Activent® Silicone, w/ Tab, 5/box	1.27	5.0	10-26014

### Touma T-Type Grommets

Endorsed by Joseph B. Touma, MD,  
Huntington, WV



Material	ID	IFD	Product#
Activent® Silicone, 5/box	1.14	5.0	10-26012
C-Flex, 5/box	1.14	5.0	10-56012
C-Flex, 5 pr/box	1.14	5.0	10-66012

### Umbrella Ventilation Tubes



Material	ID	L	Product#
Silicone, w/ Tab, 5/box	1.02	2.2	10-16030
Activent® Silicone, w/ Tab, 5/box	1.02	2.2	10-26030
Microgel™, w/ Tab, Blue, 5/box	1.02	2.2	10-88801
Microgel™, w/ Tab, Blue, 5pr/box	1.02	2.2	10-88802

### Venturi™ Style Ventilation Tubes



Material	ID	IFD	IFDis	Product#
Titanium, Reuter Bobbin, 5/box	1.02	2.5	1.0	10-70011
Titanium, Reuter Bobbin, 5/box	1.27	2.5	1.0	10-70031
Titanium, Reuter Bobbin, 5 pr/box	1.27	2.5	1.0	10-70032
Microblue, Titan Reuter Bobbin, 5/box	1.27	2.5	1.0	10-70051
Microblue, Titan Reuter Bobbin, 5 pr/box	1.27	2.5	1.0	10-70052

### V-T Ventilation Tube



Material	ID	IFD	IFDis	Product#
C-Flex, 5/box	1.27	4.5	1.3	10-02341
C-Flex, 50/box	1.27	4.5	1.3	10-64403
Microgel™, Blue, 5/box	1.27	4.5	1.3	10-84401
Microgel™, Blue, 5pr/box	1.27	4.5	1.3	10-84402
Microgel™, Blue, 50/box	1.27	4.5	1.3	10-84403

### Modified Goode T-Tubes



Material	ID	FL	L	Product#
Activent® Silicone, 5/box	1.27	9.5	4.5	10-26040
Silicone, 5 pr/box	1.27	5.8	6.7	2477-1
Silicone, 5 pr/box	1.27	5.8	6.7	2477-2
Firm Silicone, 5/box	1.27	9.5	4.5	10-16040
Firm Silicone, 50/box	1.27	9.5	4.5	10-16041
Firm Silicone, 5 pr/box	1.27	9.5	4.5	10-40002

### Per-Lee Tube

Designed by John H. Per-Lee, MD,  
Atlanta, GA



Material	ID	FL	L	Product#
Silicone, 60°, 5/box	1.5	7.8	15.0	10-25020

### Plain Straight Shanks



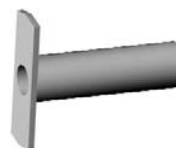
Material	ID	IFD	L	Product#
Fluoroplastic, White, 5/box	1.14	2.3	12.0	1435-1
Fluoroplastic, Blue, 5/box	1.14	2.75	7.0	10-19301
Fluoroplastic, Blue, 5/box	0.89	2.75	7.0	10-19101
Fluoroplastic, White, 5/box	0.89	2.1	7.0	10-56165
Fluoroplastic, White, 5 pr/box	0.89	2.1	7.0	10-66165
Fluoroplastic, Blue, 5/box	1.14	2.2	7.0	10-19201
Fluoroplastic, White, 5/box	0.89	2.1	12.0	10-56166
Fluoroplastic, White, 5/box	1.14	2.1	7.0	10-56167
Activent® Fluoroplastic, 5/box	1.14	2.75	7.0	10-38050
Activent® Fluoroplastic, 5/box	0.89	2.1	7.0	10-36165

### Siegel T-Tubes



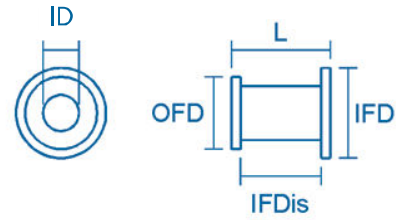
Material	ID	FL	L	Product#
Silicone, 5/box	1.14	4.0	7.0	2481-1
Silicone, 5 pr/box	1.14	4.0	7.0	2481-2

### T-Type Vent Tubes



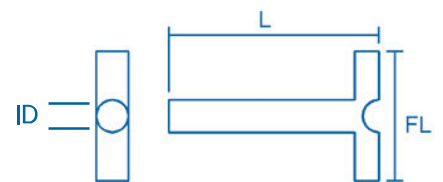
Material	ID	FL	L	Product#
C-Flex, 5/box	1.14	4.8	6.0	10-56018
C-Flex, 5 pr/box	1.14	4.8	6.0	10-66018

## Dimensions



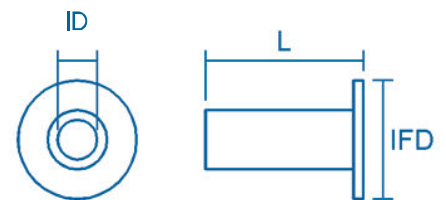
All dimensions are approximate and subject to normal manufacturing variance.  
All measurements are listed as millimeters.

ID = Inner Diameter  
OFD = Outer Flange Diameter  
IFD = Inner Flange Diameter  
IFDis = Interflange Distance  
L = Length  
FL = Flange Length  
DIA = Diameter



All dimensions are approximate and subject to normal manufacturing variance.  
All measurements are listed as millimeters.

ID = Inner Diameter  
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DIA = Diameter



All dimensions are approximate and subject to normal manufacturing variance.  
All measurements are listed as millimeters.

ID = Inner Diameter  
OFD = Outer Flange Diameter  
IFD = Inner Flange Diameter  
IFDis = Interflange Distance  
L = Length  
CD = Center Diameter  
DIA = Diameter

*For further information, please call Medtronic ENT at 800-874-5797 or 904-296-9600. You may also consult our website at [www.MedtronicENT.com](http://www.MedtronicENT.com).*

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