

Graphite/Vespel

- Preferred by some chromatographers for GC/MS applications
- less pervious to air diffusion under vacuum
- Suitable for use up to approx 320C max.
- Chromalytic uses 15% GRAPHITE/POLYIMIDE for manufacturing these ferrules.

- For HPLC columns and #10-32 fingertight fittings
- Will withstand 6000psi Inert and suitable with

Fitting Size **Tube OD** **Straight and Reducing Sizes Single-piece, 10-pk**

Fitting Size	Tube OD	Chromalytic cat.#
1/16-in	No-hole	SF100/00-VG
	0.3mm	SF100/0.3-VG
	0.4	SF100/0.4-VG
	0.5	SF100/0.5-VG
	0.8	SF100/0.8-VG
	1.0	SF100/1.0-VG
	1.2	SF100/1.2-VG
	1/16	SF100-VG
	Double	SF100/2x0.5-VG
	0.5mm	
1/8-in	No-hole	SF200/00-VG
	0.5mm	SF200/0.5-G
	0.8mm	SF200/0.8-G
	1/8-in	SF200-VG
	Double	SF200/2x0.8-G
0.8mm		
1/4-in	No-hole	SF400/00-G
	1/4-in	SF400-G

Tube Size	Chromalytic cat.#
1/16-in Single-Cone	SF100-PK
1/16-in Double-Cone	DF100-PK

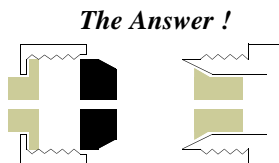
Teflon

Tube Size	Chromalytic cat.#
1/16-in	SF100-T
1/8-in	SF200-T
1/4-in	SF400-T
1/2-in	SF800-T
1/8 to 1/16	SF200/100-T
1/4 to 1/8	SF400/100-T

Graphite Ferrules are pressed from Graphoil tape – the “crushed” laminar structure gives a ferrule which may diffuse air under vacuum. Standard GFs are quite OK for conventional GC BUT Use “cup” type ferrules or TRY Chromalytic’s Capture Fitting for GC/MS.

Capture Fitting

For GC/MS ... Graphite Reducing Ferrules for Swagelok fittings have disadvantages. The graphite tends to extrude into the empty space in the fitting which can fragment the graphite / loss of seal.



The Answer !

2-Parts – Back Ferrule (BF) brass Brass Bush (B)
Use with required Graphite Front Ferrule (GF) (order separately)
SL Nut & Fitting NOT supplied

Chromalytic Technology

The **WORLD'S** largest manufacturer of Graphite Ferrules
Suppliers to major OEM's and Leading Chromatography distributors

Graphite Ferrules

Single-Piece - SF Type

1/16 to 1.0-inch tubing
1/16, 1/8, 3/16, 1/4, 5/8, 3/4, 1.0-in ID Reducing
1/16 x 0.3, 0.4, 0.5, 0.8, 1.0, 1.2mm for capillary columns
1/8 to 1/16, 1/8 to 0.8mm, 1/8 to 0.5mm, 1/8 to 0.4mmID
1/4 to 1/8, 1/4 to 1/16, 1/4 to 0.8mm Single-Piece SF Type



Front Ferrule Type – GF Type

Straight : 1/16, 1/8, 1/4-in ID
Reducing 1/16 x 0.5, 0.8, 1.0, 1.2mm ID
1/8 to 1/16-in, 1/4 to 1/8-in, 1/4 to 1/16-in

Hewlett-Packard

Short Ferrules
HP5890/6890
GF0.3HP
GF0.4HP
GF0.5HO
GF0.8HP
GF1.0HP
Inlet Sleeve Seals
Split GFO-6.35
Splitless GFO-6.5



Fisons/Tracer/Carlo Erba

Cup Seal
CF0.3Fis
CF0.4Fis
CF0.8Fis
CF1.0Fis
8mm Inlet Sleeve Seal
CFM8-Fis



Graphite Front Ferrules

Fitting Size	ID	Front Ferrule 10-pk cat.#	
1/16-in	No-hole	GF100/00	
	0.3mm	GF100/0.3	
	0.4	GF100/0.4	
	0.5	GF100/0.5	
	0.8	GF100/0.8	
	1.0	GF100/1.0	
	1.2	GF100/1.2	
	1/16	GF100	
	Dble	0.5mm	GF100/2x0.5
	1/8-in	No-hole	GF200/00
0.5mm		GF200/0.5	
0.8mm		GF200/0.8	
1.0mm		GF200/1.0	
1/4-in	1.2mm	GF200/1.2	
	1/16-in	GF200/100	
	0.8mm	GF400/0.8	
	1.0mm	GF400/1.0	
1/8-in	1/16-in	GF400/100	
	1/8-in	GF400/200	

CHROMALYTIC TECHNOLOGY PTY LTD

Chromatography Ferrules

for the perfect connection

... from the chromatography specialists

Chromalytic Technology



Made in Australia

for

GC Graphite ANY Size 1/16 to 1-in
Graphite/Vespel 1/16-in
and
HPLC PEEK 1/16-in
Teflon

Phone : 61 3 9762 2034

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E-mail jimjeffs@chromtech.net.au

PO Box 435 Boronia, Victoria Australia, 3155

Graphite Ferrule Technology



NOT
Tube fitting seals, glass, fused silica, ceramic reactor tubes

Made in Australia

- ◇ The **Perfect** sealing material for glass, fused silica and ceramic tubes.
- ◇ Use with compression fittings – Swagelok, Parker
- ◇ Any tubing size from 0.3mm to 1.0-in outside diameter for tube fittings from 4mm to 1.0-in.
- ◇ Sizes include **metric** and **reducing** ferrules, **blank** (no-hole) and **double-hole** versions.

will NOT CRUSH tube

Also use with metal tubes eg SS, Silcosteel for easier maintenance . . . without crimping of the tubing wall

- **Soft & Malleable** – conforms to fill voids in fittings.
- **Pure graphite** – high purity minimises bleed effects and detector interferences in GC
- **Stable to very high temperatures (450C+)** for gas chromatography use. Even higher in the absence of air (>1500C) - catalyst reactor tubes etc.
- **Sealing rings for valves, pump gland applications** (custom sizes available to order).
- **Made from GRAPHOIL** developed by UCAR Carbon Co

Chromalytic Technology pioneered the use of GRAPHOIL for capillary GC use and introduced the material to the chromatography market over 20 years ago.

Distributed mainly through OEMs BUT NOW available generally . . . at **REDUCED COST**

It is the ideal material for compression sealing chromatography columns; both glass and fused silica capillary columns using a wide range of standard fittings such as Swagelok, Parker-Hannifan and other proprietary fittings.

These fittings are used in gas chromatographs including custom design column & liner seals for Hewlett-Packard, Varian, Fisons (Tracer/Carlo Erba) for sealing the column to the GC injection system and detector, respectively. In these applications graphite ferrules provide an ideal leak-tight, high temperature capability seal without creep and will withstand continuous temperature cycling without leaking, even down to cryogenic temperatures.

- ◇ **Re-usable** – being soft and malleable the graphite ferrule easily slides off the tubing if necessary.
- ◇ **Minimise instrument maintenance** – you don't have to cut the ferrule off, the ferrule stays in the nut for re-use.
- ◇ **Economical** – lower cost than metal / SS ferrules

GRAPHITE Ferrules Standard Sizes

Other Sizes to Order
A one-off Tooling Cost MAY apply for small quantities



Fitting Size	Tube OD	Straight and Reducing Sizes Single-piece, 10-pk		Similar to Other Distributor / OEM	
		Chromalytic Cat.#	Restek cat.#	SGE cat.#	HP cat.#
1/16 -in	No-hole	SF100/00G			
	0.3mm	SF100/M0.3G	20233		
	0.4	SF100/M0.4G	20200		
	0.5	SF100/M0.5G	20201	OGF/005	5080-8853
	0.8	SF100/M0.8G	20202	OGF/008	0100-1074
	1.0	SF100/M1.0G		OGF/010	5080-8773
	1.2	SF100/M1.2G			
	1/16 Double	SF100G	20207	OGF/16	0100-1326
	0.5mm	SF100/2x0.5G	20205		
	1/8-in	No-hole	SF200/00G	20208	
0.5mm		SF200/M0.5G			
0.8mm		SF200/M0.8G	20245	OGF/808	
1.2mm		SF200/M1.0G	20209	OGF/810	
1/16-in		SF200/M1.2G		OGF/812	0100-1136
3/32-in	1/8-in	SF200/100G			
	Double	SF200/150G			
	0.8mm	SF200G			
3/16-in	No-hole	SF300/00G			
	1/8-in	SF300/200G			
	1/16-in	SF300/100G			
1/4-in	No-hole	SF400/00G			
	0.5mm	SF400/M0.5G			
	0.8mm	SF400/M0.8G			
	1.0mm	SF400/M1.0G			
	1/16-in	SF400/100G	20209	OGF/4/16	0100-1335
	1/8-in	SF400/200G	20225	OGF/4/8	0100-1334
	3/16-in	SF400/300G			
	6mm	SF400/M6G			
	1/4-in	SF400G	20210		0100-1324
	1/4-in DbleCone	SF400DCG			
3/8-in	1/4-in	GFO-6.35			
	O-Ring	GFO-6.5			
1/2-in	3/8-in	SF600G			
	10mm	SF800/M10G			
5/8-in	1/2-in	SF800G			
	5/8-in	SF1000G			
3/4-in	3/4-in	SF1200G			
	1.0-in	SF1600G			
1.0-in	20mm	SF1600/M20G			

Prices
All sizes (to 1/4-in ID)
USD \$18.00 per 10-pk
Other Sizes
Please Enquire!
one-off Tooling Cost MAY apply for non-standard sizes

Available in 10-pk and 50-pk
(add suffix -50 to cat.# ie SF400-G-50)
Discount 25%
OEM Discounts apply for Large Quantities
Please Enquire!

Chromalytic catalog code 100 = 1/16-in, M=metric, -O=O-Ring
-G=Graphite; -VG=Vespel/Graphite(15%) -T=Teflon; -Pk=PEEK

Custom Ferrule Size – To YOUR specs



Material
Graphite
Graphite/Vespel (15%)
Teflon
Other . . .

Request for Quotation 10-p
Qty 1-100
100-500
500-1000
>1000 per annu

Dimensions Required	Typical Working Tolerances	Your Required * Sizes inches/ mm
Overall Length	+/- 0.003-in	-----
Shoulder Length	+/- 0.003-in	-----
Cone Length	+/- 0.000-in	-----
OD	+0.000/-0.002-in	-----
ID	+0.002/-0.000-in	-----
Cone OD	+0.002/-0.000-in for Swagelok SF-Type = ID + 0.010"	-----
Cone Angle	For Swagelok = 14 degs	Not Required
Please specify !	mm	Inches

Name : Dr/Mr/Ms : _____
 Company : _____
 Address : _____ City _____ Zip : _____
 Fax : _____ Phone : _____
 E-mail : _____@_____

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