Technical Information

Glass Properties

All A Plus® glass products meets ASTM Specification E438, Type 1, Class A "standard Specification for Glasses in Laboratory Apparatus", or ISO specifications, as is appropriate. Borosilicate 3.3, ISO 3585, with its low linear coefficient of expansion is the ideal choice for fabricating laboratory glassware.

Annealing Point ..... 560°C

Linear Coefficient of Expansion..... 32×10^{-7}/°C

Softening Point..... 820°C

Trade Marks

Registered trademarks found in this catalogue.

Teflon® ..... E.I. DuPont.
Viton® ..... E.I. DuPont.
Nylon® ..... E.I. DuPont.
Rodaviss® .....S.A.V. France

Shortage or Breakage

In case the quantity or material received does not agree with the items ordered or items are broken, please notify us within 5 working days from the date they are received.

Dimensions for Stopcocks

Stopcocks with Glass Plugs

Stopcocks with Glass Plugs
Single Straight-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Centerline of Bore mm	Length of Shell ±0.5 mm
1-m (1mm)	7	30
1	12	30
1-1/2	12	30
2	12	30
3	17	40
4	17	40
5	20	40
6	20	44
8	25	52
10	35	56

T-Bore 120° Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Centerline of Bore mm	Length of Shell ±0.5 mm
1	17	40
1-1/2	17	40
2	17	40
3	20	44
4	20	44

Single Oblique-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Opening Nearest Large End mm (Gauging Point)	Distance of Gauging Point From Large end mm	Length of Shell ±0.5 mm
1	12.60	14.0	40
1-1/2	12.60	14.0	40
2	12.60	14.0	40
3	17.35	16.5	50
4	17.35	16.5	50

Double Oblique-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Gauging Point (Center of Plug) mm	Distance Gauging Point From Centerline of Hole nearest Large End mm	Length of Shell ±0.5 mm
1	14.5	12.5	50
1-1/2	14.5	12.5	50
2	14.5	12.5	50
3	16.2	14.0	56
4	16.2	14.0	56

Sinterware

We have tried to be all things to all people and use the terms sinter and fritted disc interchangeably. Different regions of the world use different terminology. Furthermore, porosities change from one house to the next. We have tried to solve this by offering a selection of sinter / frit providers, hopefully covering your particular favourite. Please specify what type of sinter best suits your requirements.

We have used Extra Coarse (micron 100-200), Coarse (micron 10-20), Medium (micron 20-35) and Fine (5 -10) as basic definitions, but we can go further than that and talk about porosity scales as below:

Porosity	Micron Size
00	250-500
0	150-250
1	90-150
2	40-90
3	15-40
4	5-15
5	max of 2

Porosity O and 1

Grades O and 1 are used for the rough filtration of very coarse precipitates, for the dispersion of gases in liquids in various kinds of wash bottles, and the distribution of liquid extractors.

Porosity 2

Grade 2 is used for the filtration of somewhat finer precipitates than the above, and for still finer types of gas washers.

Porosity 3

Grade 3 is used wherever possible for all kinds of filtration, particularly in quantitative work, gas washers where exceptionally fine dispersions are required, and where a high back pressure is permissible, and for the removal of dust and bacteria from dry gas streams.

Porosity 4

Grade 4 is the finest of the ordinary grades. It is used for the filtration of the finest precipitates. It is naturally distinctly slower in operation than the grade 3, which would be used as a default standard.

Porosity 5

Grade 5 is a compound disc consisting of a thin layer of grade 5 supported by a grade 3 disc, the whole being fired into a single unit with the grade 5 surface uppermost. This is used entirely for bacterial filtration, replacing many types of ceramic filters. It is suggested that the bulk of solids be removed from the solution first by passing through a grade 3 or 4.

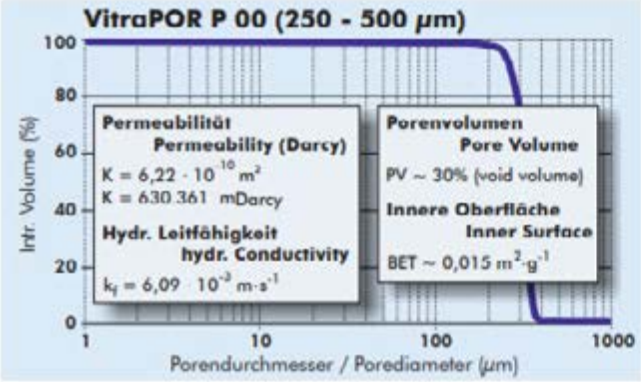
But we also use other sinters / frits, produced by ROBU in Germany. Their data sheet is below and is slightly different again. Prices also change depending upon sinter used, so please do specify which type you have as a preference.

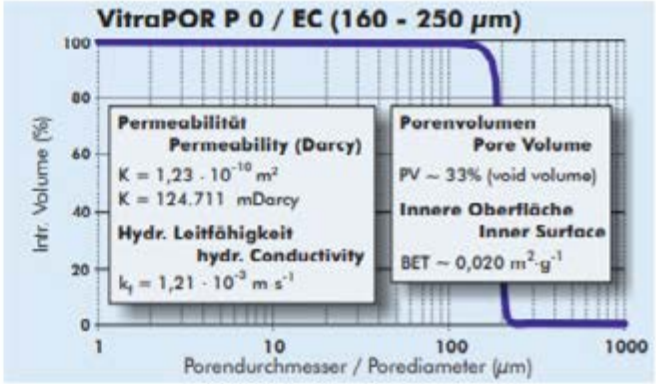
VitraPOR® Sinterfilter

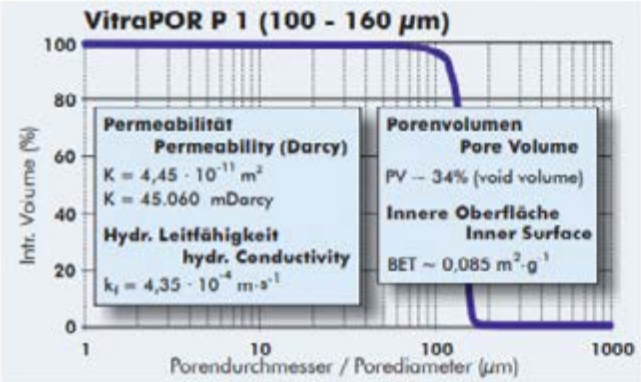
ROBU®

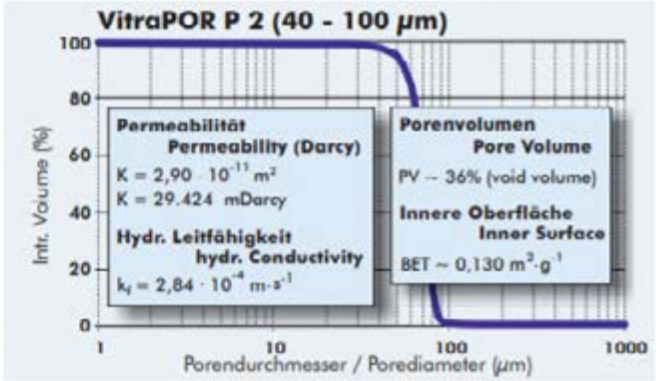
Poreneigenschaften

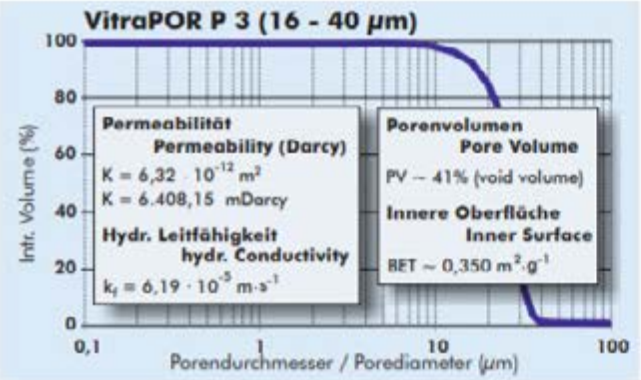
Pore Properties

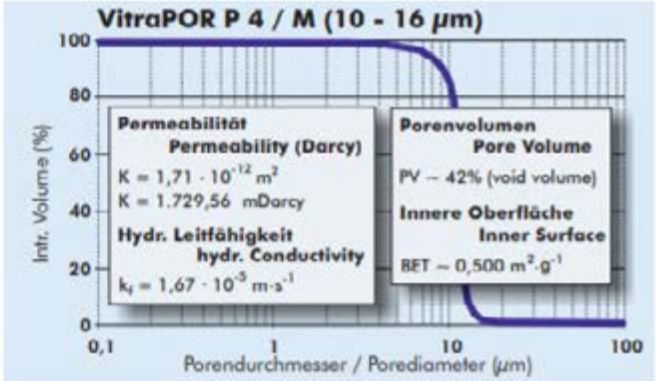


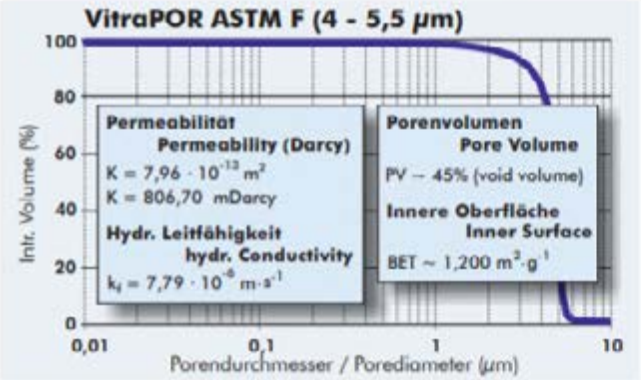


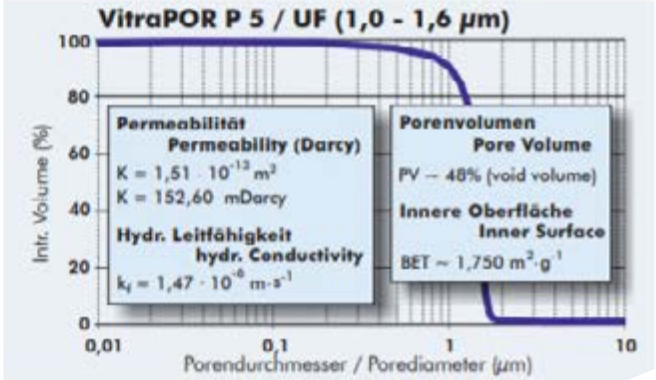












Die Graphen und Daten sind nur annähernd maßgebend!
Graphs and data are only of approximate value!

Dimensions for Stopcocks

Stopcocks with Teflon Plugs

Stopcocks with Teflon® Plugs
Single Straight-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Centerline of Bore mm	Length of Shell ±0.5 mm
1	11	25
2	11	25
3	15.2	30
4	15.2	30
6	16	35

T-Bore 120° Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Centerline of Bore mm	Length of Shell ±0.5 mm
1	15.2	30
2	15.2	30
4	16	35

Single Oblique-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Opening Nearest Large End mm (Gauging Point)	Distance of Gauging Point Form Large end mm	Length of Shell ±0.5 mm
2	15.9	11.5	30

Double Oblique-Bore Stopcocks

Stopcock Size (Designation and Bore of Hole in Plug mm)	Diameter of Plug at Opening Nearest Large End mm (Gauging Point)	Distance of Gauging Point Form Large end mm	Length of Shell ±0.5 mm
1	12.9	9.4	44
2	12.9	9.4	44
3	14.4	10.4	44
4	14.4	10.4	44

0-Ring-Organic Solvent Compatibility Chart

Organic Solvents	Viton®	Chemraz®505	Chemraz®514 White
Acetic Acid, Glacial	D	A	B
Acetic Anhydride	B	A	B
Acetone	D	A	A
Acetonitrile	A	A	A
Ammonia, Anhydrous Liquid	D	A	B
Benzene	A	A	A
Benzyl Chloride	A	A	A
Bromine	A	A	A
Butane	A	A	A
Carbon Tetrachloride	A	B	B
Chloroform	A	A	A
Cyclohexane	A	A	A
Decane	A	A	A
Diethyl Ether	D	A	A
Ethanol	C	A	A
Ethyl Acetate	D	A	A
Gasoline	A	A	A
n-Hexane	A	A	A
Isobutyl Alcohol	A	A	A
Kerosene	A	A	A
Methanol	D	A	A
Methyl Ethyl Ketone	D	A	A
Pentane	A	A	A
Propane	A	A	A
Pyridine	D	A	A
Tetrahydrofuran	D	A	A
Toluene	D	A	A

A - Excellent. Volumetric swell is less than 10% after exposure.

B - Good. Limited exposure is recommended.

C - Fair. Volumetric swell is between 20% - 40% after exposure. Limited exposure and frequent O-ring replacements may be necessary.

D - Poor. Not suitable for this type of reaction / condition.

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1. We can not be responsible for use of the above data in specific applications. Immersion testing under actual conditions is always recommended..
2. Fluorinated products should never be exposed to molten or gaseous alkali metals such as sodium or potassium, since vigorous exothermic reaction may occur.