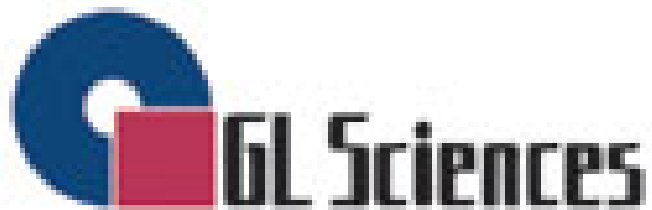


# **Inertsil Quality Control Program: Back Pressure**

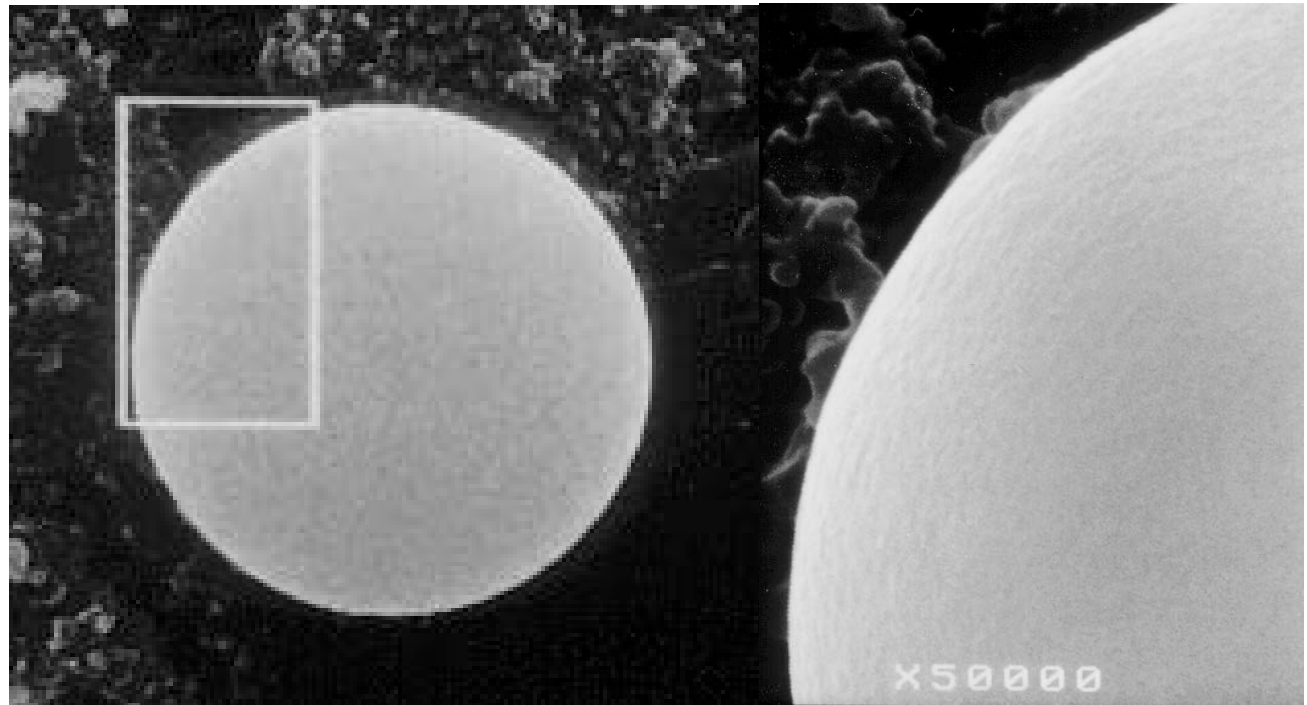
---



# GL Sciences synthesizes Highly pure base silica-gel for Chromatography from pure ingredients

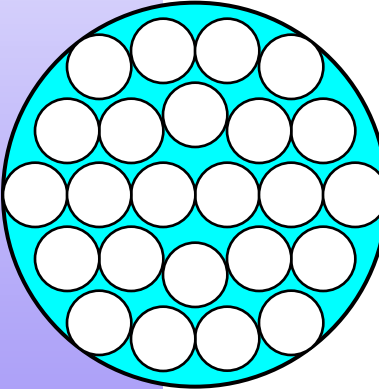
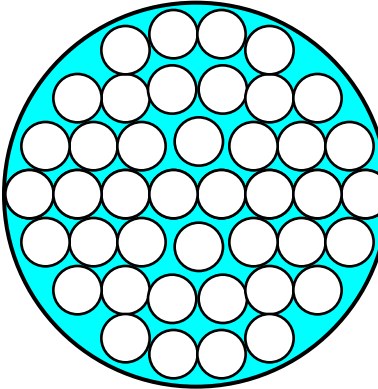
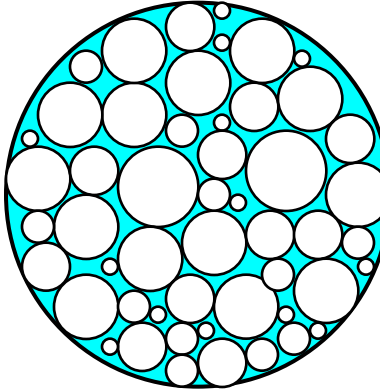
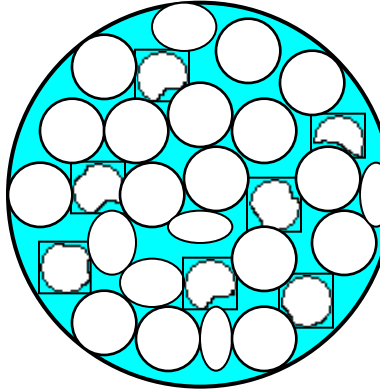
---

- Sphericity and Surface Smoothness by Scanning Electron Microscopy

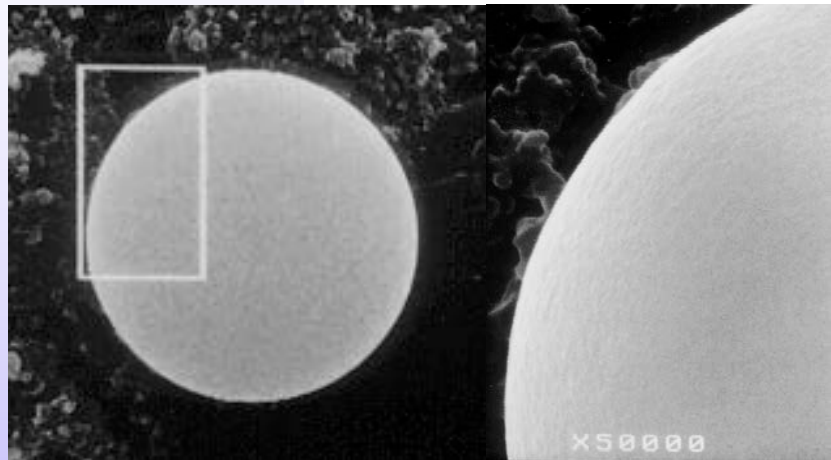


# What makes the column back pressure so different?

It depends on the size of the silica gel, uniformity of the particle size and the particle shape.

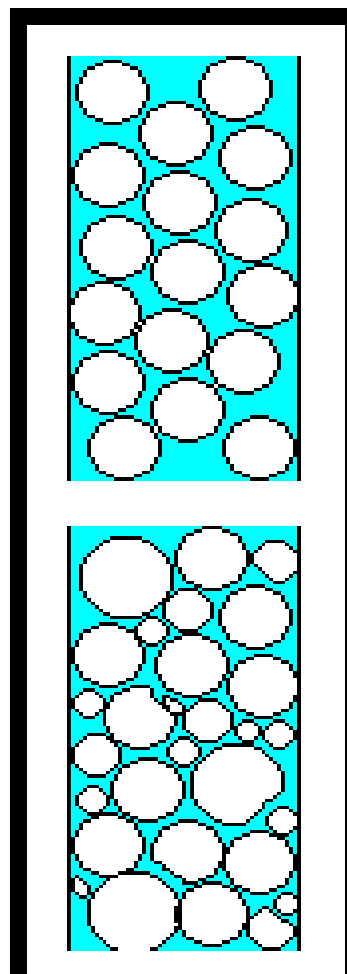
|   |   |   |   |
|---|---|---|---|
| <p><b>5um</b><br/><b>Uniformed</b><br/><b>Spherical</b><br/>Back pressure = Low</p> | <p><b><u>3um</u></b><br/><b>Uniformed</b><br/><b>Spherical</b><br/>Back pressure = High</p> | <p><b>5um</b><br/><b><u>Not uniformed</u></b><br/><b>Spherical</b><br/>Back pressure=High</p> | <p><b>5um</b><br/><b>Uniformed</b><br/><b><u>Irregular</u></b><br/>Back pressure=High</p> |
|   |           |            |       |

# ***Reasons why Inertsil can offer the lowest back pressure column in the world!!!***

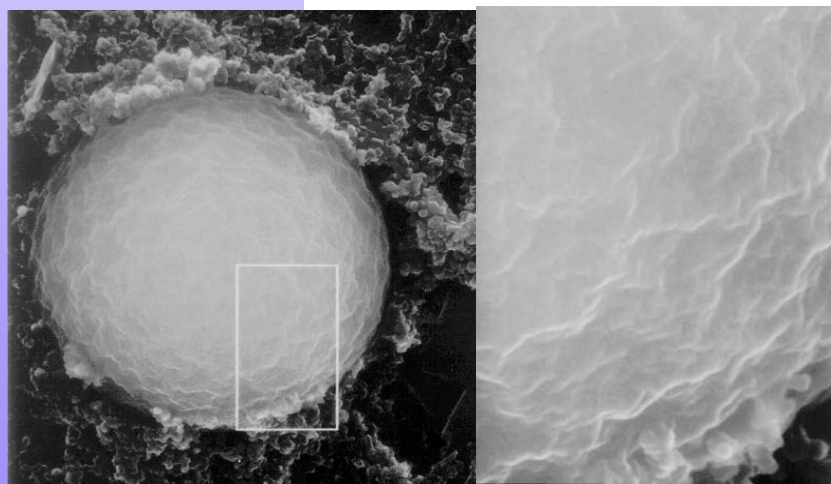


**Inertsil SIL**

**Packing**



- Low back pressure***
- High theoretical plates***
- Lot-to-Lot reproducibility***



**One competitor's silica gel**

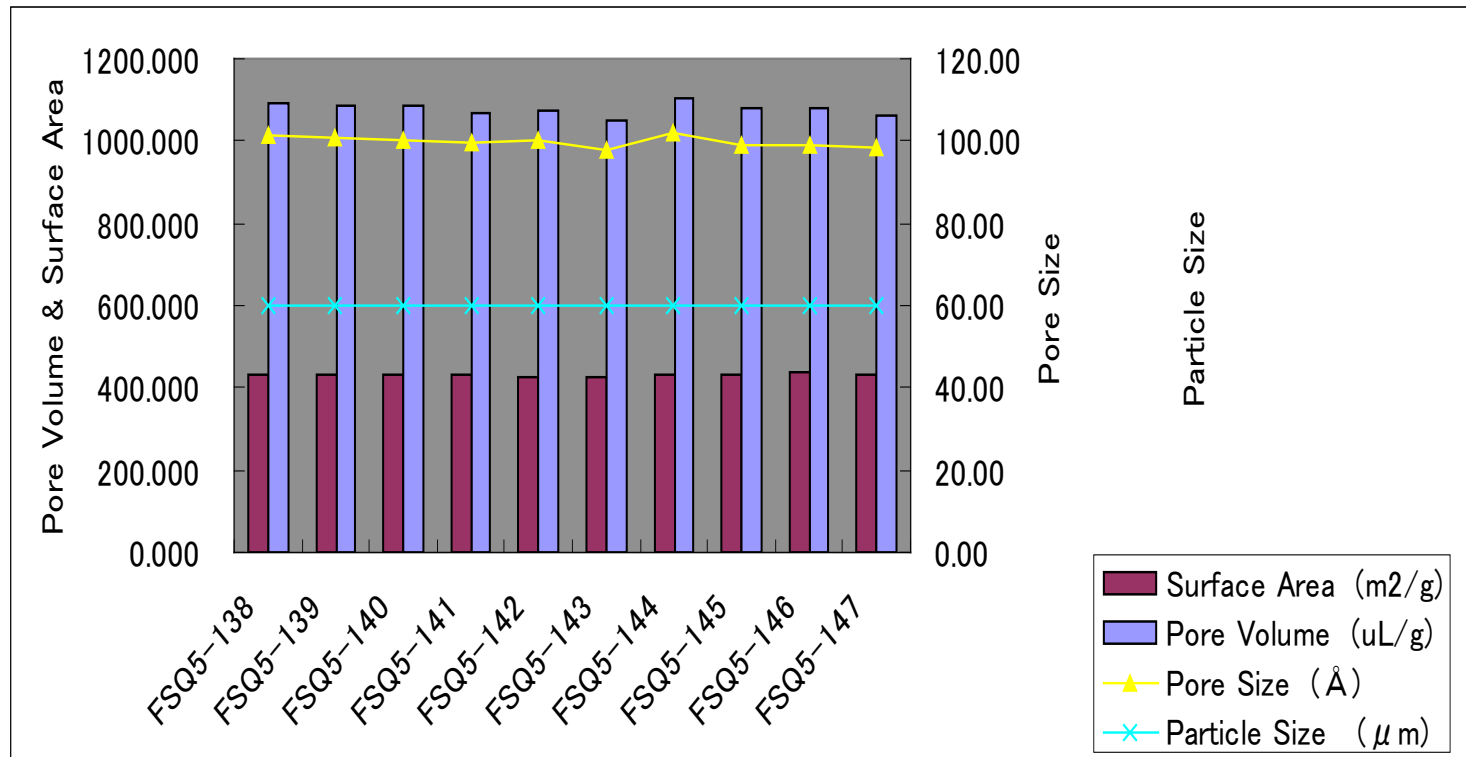
**Packing**



- High back pressure***
- Low theoretical plates***
- Poor Lot-to-Lot reproducibility***

# Inertsil® Quality Control

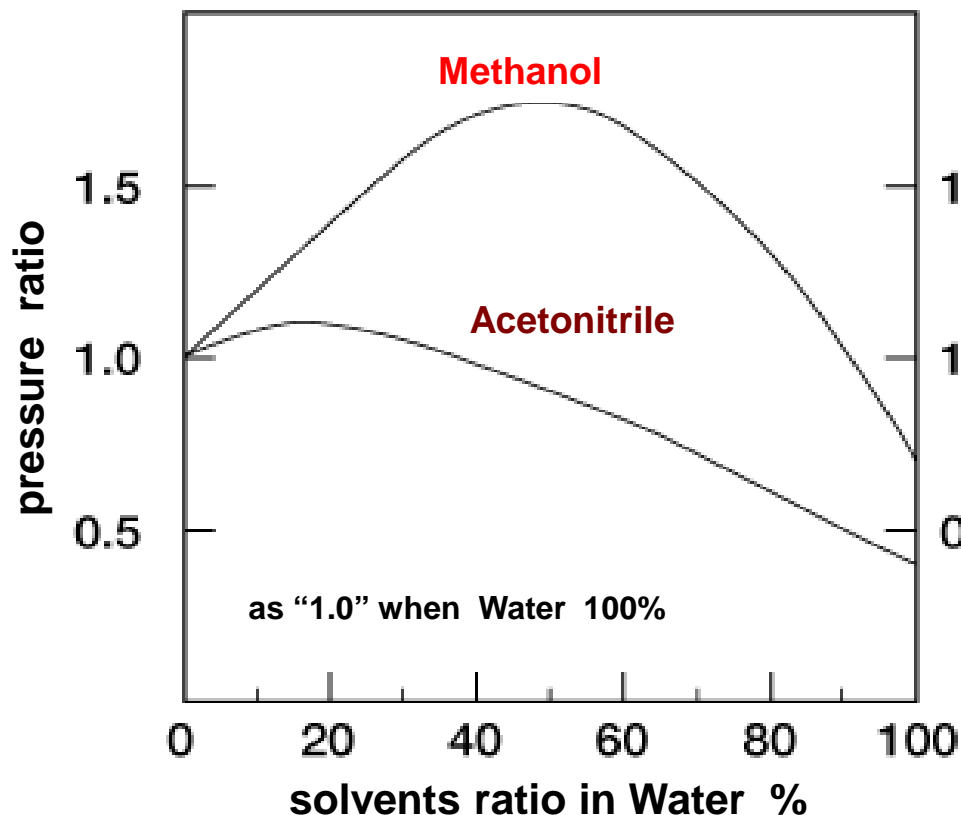
- Particle Size, Surface Area, Pore Diameter and Pore Volume are Controlled by Using Nitrogen Adsorption and Laser Ray Particle Analyzer.



# Acetonitrile vs Methanol

| solvent      | Cost (¥)  |            | pressure |
|--------------|-----------|------------|----------|
|              | S-grade   | HPLC grade |          |
| acetonitrile | 1,111 / L | 3,833 / L  | low      |
| methanol     | 326 / L   | 933 / L    | high     |

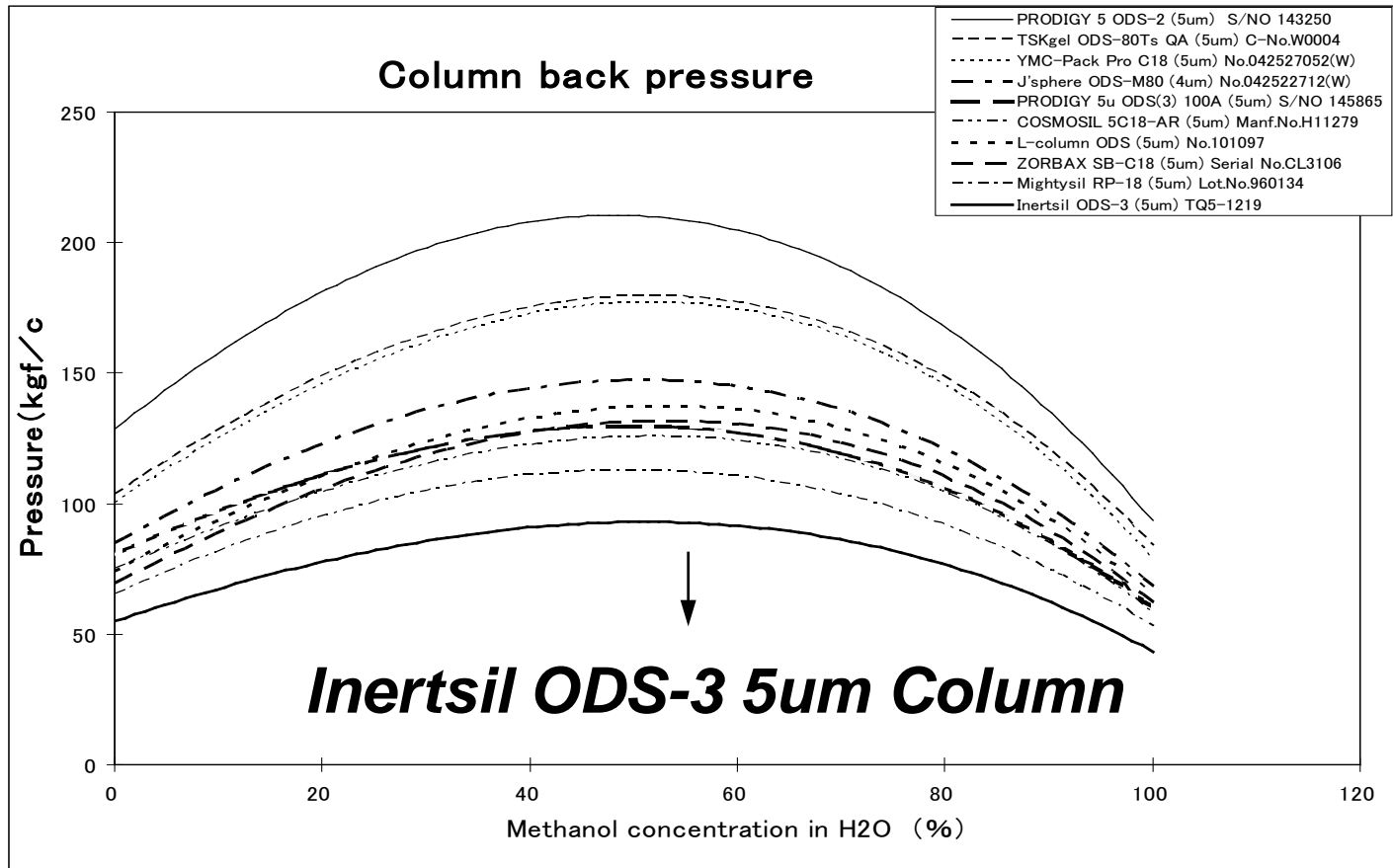
In Japanese Yen



*As you can see, methanol gives higher back pressure than acetonitrile.*

*In the following tests, we used methanol on purpose to prove Inertsil column offers the lowest back pressure.*

# Packing with an uniformed size and smooth surface shows very low column back pressure



# Inertsil® Quality Control

