

What is sintering (diffusion bonding)?

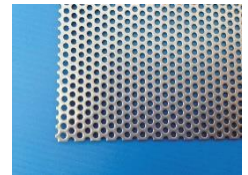
Diffusion bonding (sintering) is an advanced material process for joining materials. Our diffusion bonding (sintering) technology is a method of joining metallic materials. This bonding technique is based on the atomic diffusion at the joining interface. Diffusion process actually is the transport of mass in form of atom movement. We mainly bond stainless steel materials under high temperature and high vacuum. We do not use any binders (glue / adhesive) to bond metals. So we can make porous metals without other chemicals.

Features

- High temperature resistance / Cold temperature resistance
- Uniformly aperture as filter media / porous metal

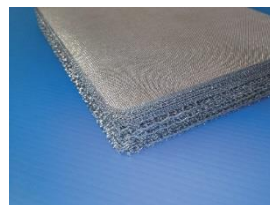
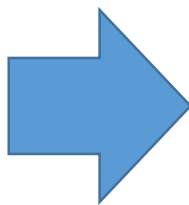
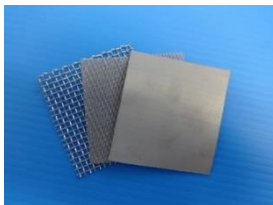
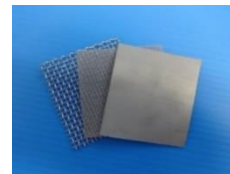
■ Porous metal media

Woven wire mesh / Wires, Metal powder, Metal plate,
Perforated plate, Etched plate, Welded mesh, Expand metal,
Metal Fibers, Non-woven fabric, Knit mesh



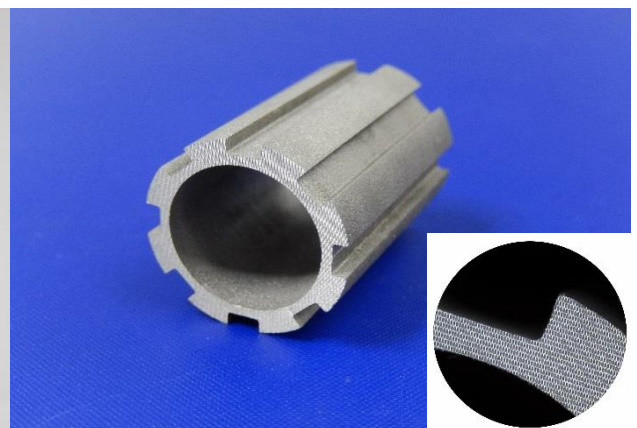
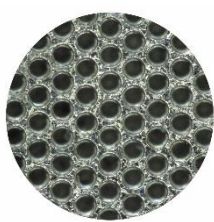
■ Material

Austenitic stainless steels (SUS 304 / SUS316 / SUS316L etc.)
Duplex stainless steels, Ferritic Stainless steels (SUS430 etc.)
Nickle / Nickle Alloys (Ni200 / 201, Hastelloy, Inconel etc.)



Before sintering

After sintering



Compare Sintered wire mesh filters with normal filters

Sintered wire mesh filters	Normal filters
<ul style="list-style-type: none"> Sintered wire mesh (2~5 layers wire mesh + perforated metal) 	<ul style="list-style-type: none"> Wire mesh + perforated metal fixed by spot welding
<ul style="list-style-type: none"> There are less possibility of contamination because sintered wire mesh filters are not easy to broken. 	<ul style="list-style-type: none"> They may not be able to catch contamination because the wire mesh are broken by pressure easily.
<ul style="list-style-type: none"> Longer life. No damage of wire mesh because all wire meshes + perforated metal are bonded by sintering. Welding by TIG / Plasma very strong 	<ul style="list-style-type: none"> Shorter life. No sintered, Welding by Spot welding very weak
<ul style="list-style-type: none"> Easy to clean. Sintered wire mesh filters easy to clean. No damage by high pressure jet cleaning, brushing 	<ul style="list-style-type: none"> Broken by cleaning. Normal filters to be broken by high pressure jet cleaning, brushing.
<ul style="list-style-type: none"> Uniformly aperture size, Uniformly filtration. Wires to be not moved and not loosed. 	<ul style="list-style-type: none"> No uniformly aperture size, No uniformly filtration. Wires easy to be moved and loosed

Sintered type TIG welding
Very strong

Normal type Spot welding
Not strong (Easy to be broken)

Sintered type
No broken

Normal type
Easy to be broken

