SP-100-P

Product names and properties

The new member of the DAISOGEL base silica family is the SP-100-P series, available in 3, 5, 10 and 15 micron particle sizes. The 10 nm pore size provides extraordinary high surface area. Less than 600 milligram of SP-100-P has bigger surface area than a whole doubles tennis court.

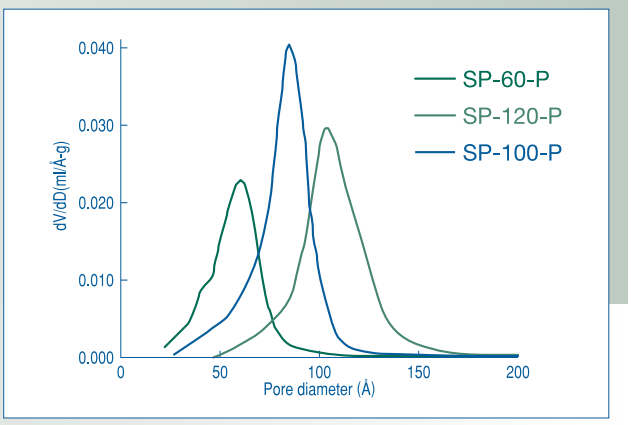
	Pore Size (nm)	Particle Size (µm)	Pore Volume (ml/g)	Surface Area (m^2/g)	Particle Size Distribution (D40/D90)
SP-100-3-P	10	3	1.1	450	≤1.25
SP-100-5-P	10	5	1.1	450	≤1.25
SP-100-10-P	10	10	1.1	450	≤1.30
SP-100-15-P	10	15	1.1	450	≤1.40

High Surface Area series / SP-100-P : optimal porosity

Prosity Comparison

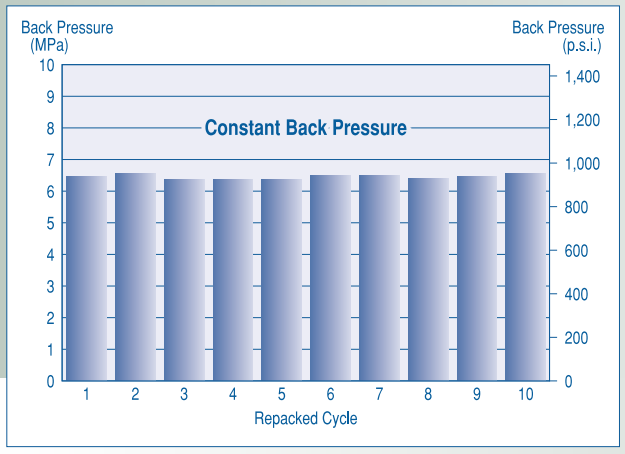
Grade	Pore Diameter (nm)	Surface Area (m^2/g)	Pore Volume (ml/g)
SP-60	6	450	0.75
SP-120	12	300	1.00
SP-100	***10***	***450***	***1.10***

Pore Size Distribution

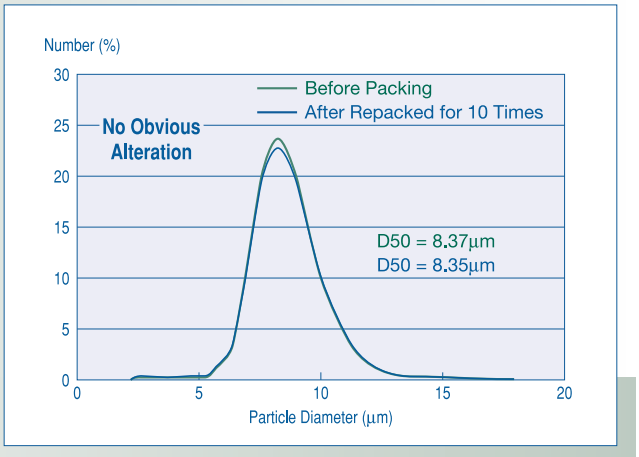


High Surface Area series / SP-100-P : mechanical strength for DAC column

Back Pressure in Repacking



Particle Size Alteration



Material: SP-100-10P (Lot No. 021118TSP); Column: Dynamic Axial Compression Column (50mm I.D.);
Bed Length: 23cm (Packed 170g of Silica Gel); Mobile Phase: 2-Propanol (20°C); Flow Rate: 150ml/min;
Piston Pressure: 10 MPa (100 Bar). Particle Size Distribution: measured by Coulter Counter.

DAISOGEL HSA Series

SP-100-ODS-P

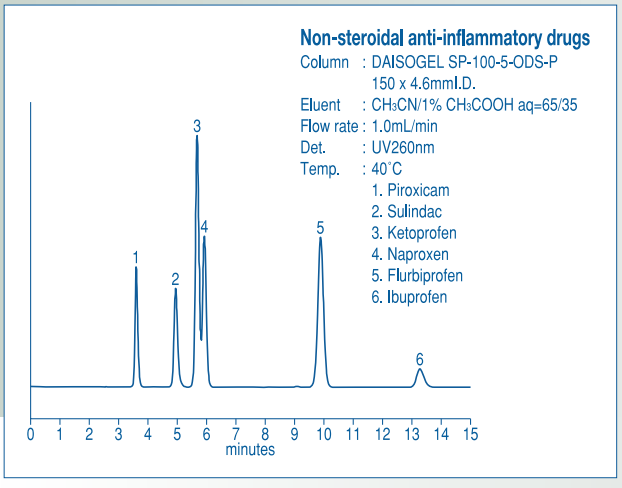
✻ Long retention and high loadability
✻ Superior performance for both hydrophilic and hydrophobic compounds
✻ Minimal silanol activity due to our new proprietary endcapping technology

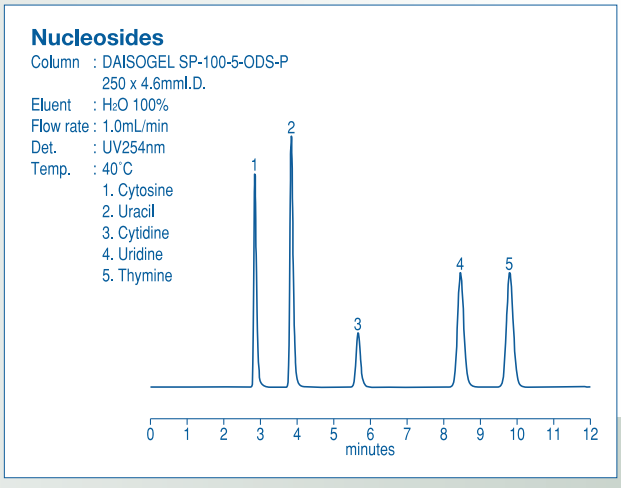
The DAISOGEL SP-100-ODS-P series represents a high performance ODS phase based on a new type of silica gel developed to show long peak retention and high loadability, caused by its exceptionally high surface area.
The ODS bonding density is chosen with respect to optimal selectivity for both hydrophilic and hydrophobic compounds, enabling even the use of 100% aqueous eluents. Our proprietary endcapping technology minimises residual silanol groups to an amount which is below the detectable level. Silanol groups have negative effects on peak symmetry, particularly in case of basic compounds, and on chemical phaserobustness.
DAISOGEL SP-100-ODS-P series is available with particle sizes of 3, 5, 10 and 15 microns for both analytical as well as preparative applications.

Product names and properties

	Pore Size (nm)	Particle Size (µm)	Pore Volume (ml/g)	Surface Area (m^2/g)	% of Carbon	Minimum Lot (g)
SP-100-3-ODS-P	10	3	1.1	450	17	50
SP-100-5-ODS-P	10	5	1.1	450	17	50
SP-100-10-ODS-P	10	10	1.1	450	17	500
SP-100-15-ODS-P	10	15	1.1	450	17	500

Applications



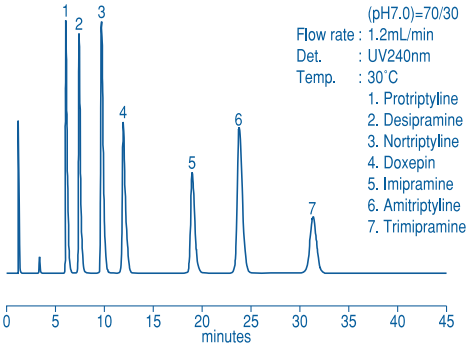


Applications

Tricyclic antidepressants

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3OH/20mM KH_2PO_4-K_2HPO_4 (pH7.0)=70/30
Flow rate : 1.2mL/min
Det. : UV240nm
Temp. : 30˚C

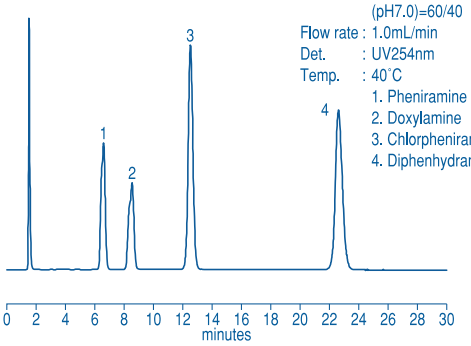
1. Protriptyline
2. Desipramine
3. Nortriptyline
4. Doxepin
5. Imipramine
6. Amitriptyline
7. Trimipramine



Histamine antagonist

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3OH/20mM KH_2PO_4-K_2HPO_4 (pH7.0)=60/40
Flow rate : 1.0mL/min
Det. : UV254nm
Temp. : 40˚C

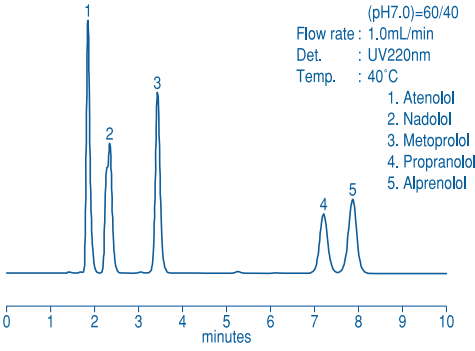
1. Pheniramine
2. Doxylamine
3. Chlorpheniramine
4. Diphenhydramine



ß-Blocker

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3OH/20mM KH_2PO_4-K_2HPO_4 (pH7.0)=60/40
Flow rate : 1.0mL/min
Det. : UV220nm
Temp. : 40˚C

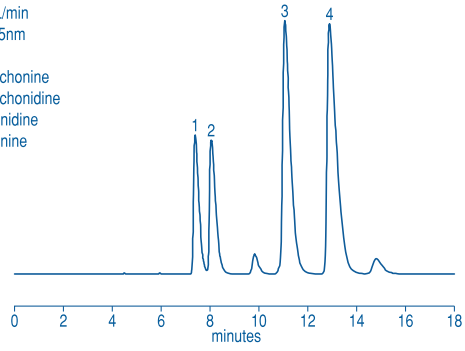
1. Atenolol
2. Nadolol
3. Metoprolol
4. Propranolol
5. Alprenolol



Cinchona alkaloids

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3OH/20mM KH_2PO_4=35/65
Flow rate : 1.0mL/min
Det. : UV235nm
Temp. : 40˚C

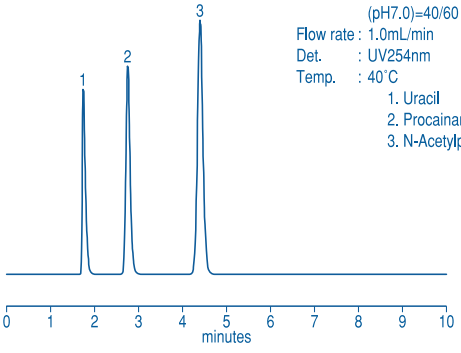
1. Cinchonine
2. Cinchonidine
3. Quinidine
4. Quinine



Procainamides

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3OH/20mM KH_2PO_4-K_2HPO_4 (pH7.0)=40/60
Flow rate : 1.0mL/min
Det. : UV254nm
Temp. : 40˚C

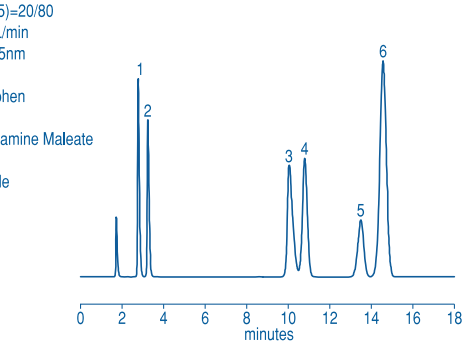
1. Uracil
2. Procainamide
3. N-Acetylprocainamide



Ingredients in a cough / cold medication

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3OH/50mM $NH_4H_2PO_4$-H_3PO_4 (pH2.5)=20/80
Flow rate : 1.0mL/min
Det. : UV235nm
Temp. : 40˚C

1. Acetaminophen
2. Caffeine
3. Chlorpheniramine Maleate
4. Aspirine
5. Ethenzamide
6. Bucetin



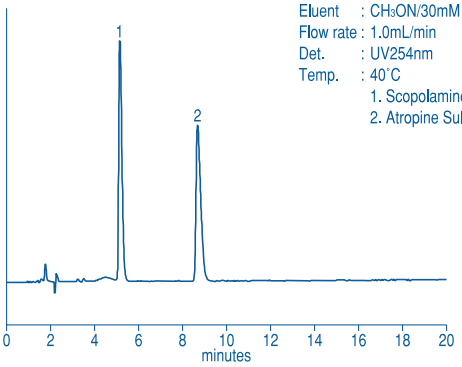
DAISOGEL HSA Series

SP-100-ODS-P

Applications

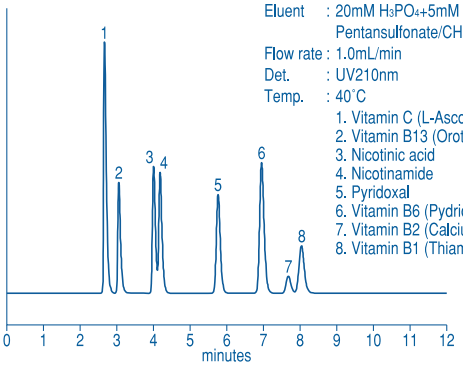
Anticholigenic drugs

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3ON/30mM NaH_2PO_4=15/85
Flow rate : 1.0mL/min
Det. : UV254nm
Temp. : 40˚C
1. Scopolamine Hydrobromide
2. Atropine Sulfate



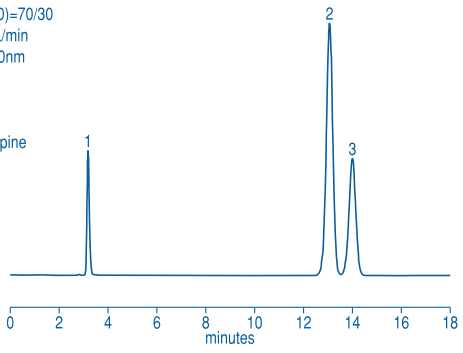
Water-soluble vitamins

Column : DAISOGEL SP-100-5-ODS-P 250 x 4.6mmI.D.
Eluent : 20mM H_3PO_4+5mM Sodium1-Pentansulfonate/CH_3CN=92/8
Flow rate : 1.0mL/min
Det. : UV210nm
Temp. : 40˚C
1. Vitamin C (L-Ascorbic acid)
2. Vitamin B13 (Orotic acid)
3. Nicotinic acid
4. Nicotinamide
5. Pyridoxal
6. Vitamin B6 (Pydridoxine)
7. Vitamin B2 (Calcium pantothenate)
8. Vitamin B1 (Thiamin)



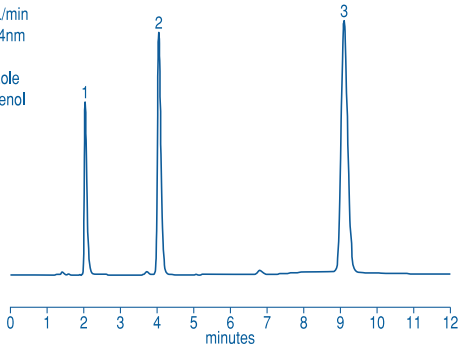
Antiepileptics

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3CN/20mM KH_2PO_4-K_2HPO_4 (pH7.0)=70/30
Flow rate : 1.0mL/min
Det. : UV220nm
Temp. : 30˚C
1. Primidone
2. Phenytoin
3. Carbamazepine



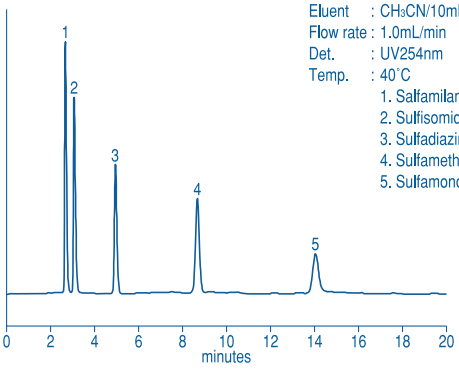
Fungicides

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3CN/30mM NH_2PO_4=65/35
Flow rate : 1.0mL/min
Det. : UV254nm
Temp. : 40˚C
1. Thiabendazole
2. *o*-Phenylphenol
3. Biphenyl



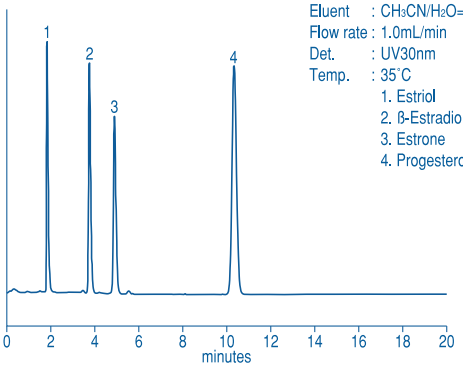
Sulfonamides

Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3CN/10mM H_3PO_4=15/85
Flow rate : 1.0mL/min
Det. : UV254nm
Temp. : 40˚C
1. Salfamilamide
2. Sulfisomidine
3. Sulfadiazine
4. Sulfamethazine
5. Sulfamonomethoxine



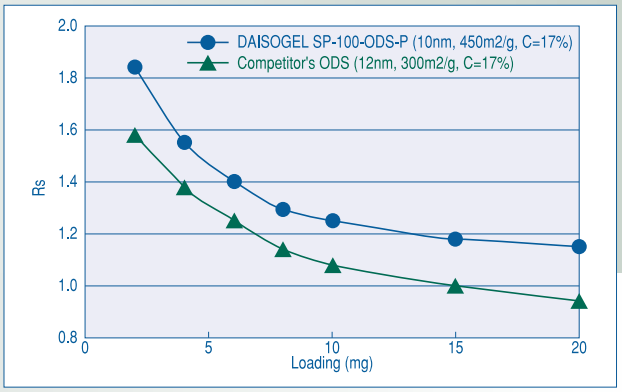
Steroids

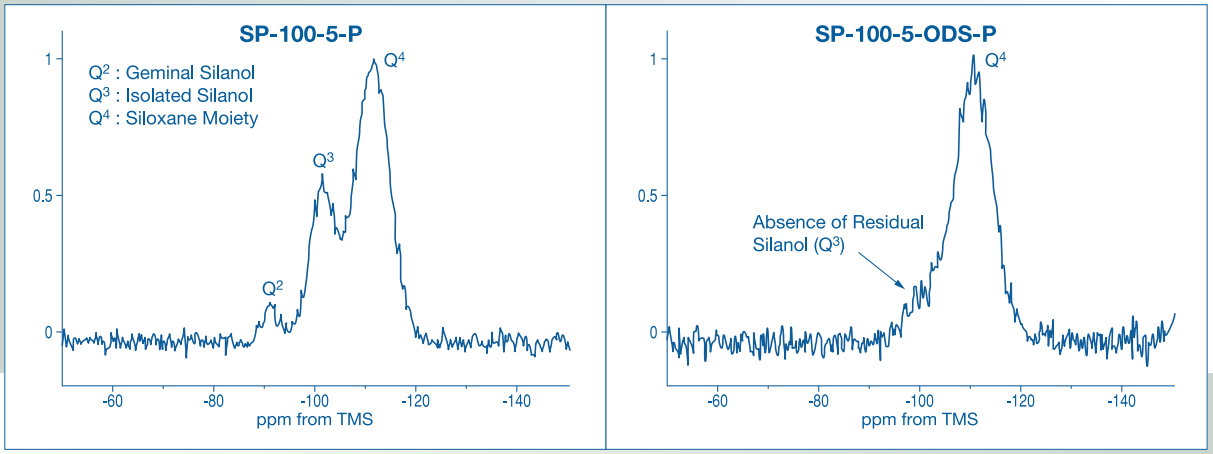
Column : DAISOGEL SP-100-5-ODS-P 150 x 4.6mmI.D.
Eluent : CH_3CN/H_2O=60/40
Flow rate : 1.0mL/min
Det. : UV30nm
Temp. : 35˚C
1. Estriol
2. ß-Estradiol
3. Estrone
4. Progesterone



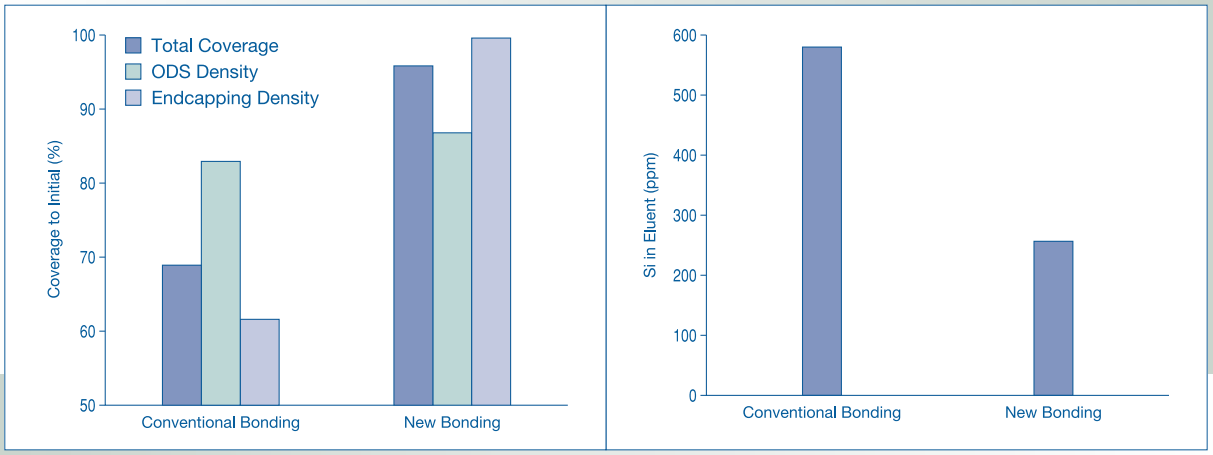
Superior loadability and resolution

Column : 250 x 20mmI.D. (Semi-prep size)
Eluent : $CH_3CN/H_2O/TFA$=30/70/0.1 → 70/30/0.1 (20 min Linear, 5 min Hold)
Flow Rate : 19mL / min
Det. : UV270nm
Temperature : Ambient
Sample : Mixture of Econazole nitrate and Miconazole nitrate (each 20mg/mL in DMSO)





Measurement results of ^{29}Si-NMR show clear disappearance of silanol moiety after ODS modification and endcapping.



Acidic Resistance (pH1)
Column Size: 4.6mmI.D. x 150mm Length;
Mobile Phase: CH_3CN/1% TFA (pH=1) = 10/90;
Temperature: 70˚C; Flow: 0.5ml/min; Time for Purge: 20h.

Alkalic Resistance (pH12)
Column Size: 4.6mmI.D. x 150mm Length;
Mobile Phase: CH_3CN/20mM Na_3PO_4-NaOH (pH=12) = 10/90;
Temperature: 40˚C; Flow: 1.0ml/min; Time for Purge: 5h.

Durability against acidic and alkalic condition is improved dramatically compared with conventional bonding.