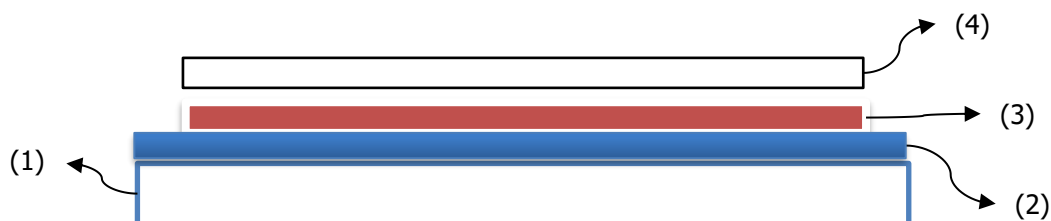


1. MODEL : ES-229G series

2. FEATURE

- Functional material for both dicing and die bonding
- Thermal curing type, high adhesive strength
- Excellent high adhesion(die to die, die to PCB)
- Applicable to SDBG, GAL, WEC, blade saw process

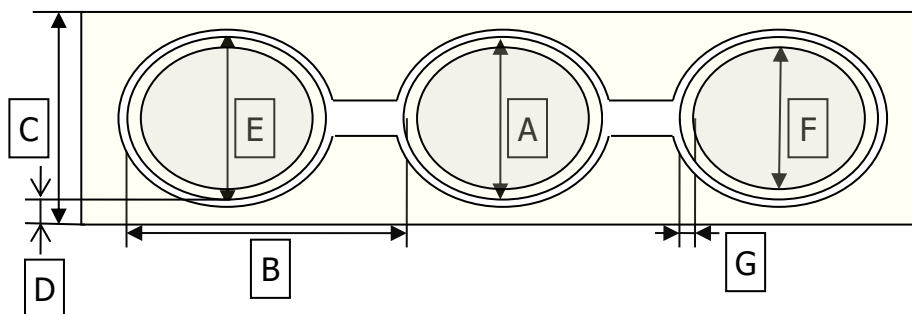
3. COMPOSITION



WBL

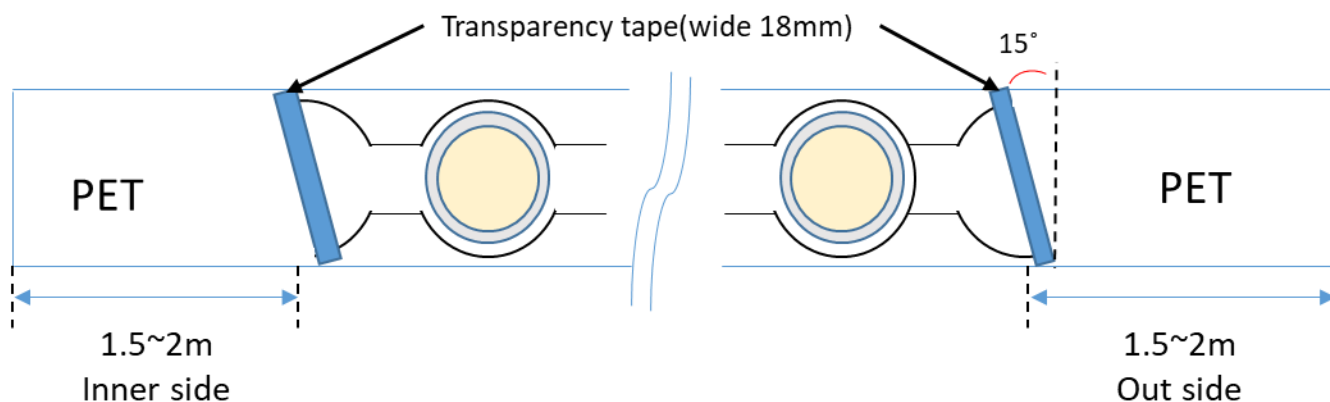
- (1) Base Film ($100\mu\text{m}$)
- (2) Adhesive Layer ($10\mu\text{m}$)
- (3) DAF ($10 \sim 30\mu\text{m}$)
- (4) Protective Film ($38\mu\text{m}$)

4. PRE-CUT STYLE



	A	B	C	D	E	F	G
8 inch	260 ± 2	278 ± 2	290 ± 2	15 ± 2	267 ± 2	220 ± 2	20 ± 2
	270 ± 2	279 ± 2	290 ± 2	10 ± 2	281 ± 2	220 ± 2	25 ± 2
12 inch	370 ± 2	378 ± 2	390 ± 2	10 ± 2	377 ± 2	320 ± 2	25 ± 2

5. Joint Part



6. Expiration time

12 months after production (-5 ~ 5°C)

4 weeks after opening

7. SPECIFICATION

ITEM			ES-229G-20
Appearance	Tape color		milky white
	Tape thickness		168 μ m
	Base film		Polyolefin / 100 μ m
	DAF		20 μ m
	Adhesive layer		10 μ m
	Protective film		PET / 38 μ m
Properties	Peel strength of Dicing Film	before UV	2.0 N/25mm ¹⁾
		after UV	0.25 N/25mm
	Peel strength of DCF/DAF	before UV	1.8 N/25mm
		after UV	0.15 N/25mm
	UV exposure		400mJ/cm ²
	Die shear strength (2×2mm, Si die on glass substrate) @ 260°C		7.8 N/mm ²

7. SPECIFICATION

ITEM		ES-229G-20
Properties	Cure starting temperature	130°C
	Curing condition	1 hour @180°C (ramp-up 30min)
	CTE	below Tg 210 ppm/°C
		above Tg 240 ppm/°C
	Tg	184 °C
	Elastic modulus	14.3 MPa (at 250°C)
	Enthalpy	39.4 J/g
	Dielectric breakdown Voltage	26 kV/mm (ASTM D149)
	Conductivity(@80°C)	0.215 W/m*K
	Water absorption (85°C/85RH%/48Hrs)	0.8 %
	Ion impurity (Na ⁺ , K ⁺ , Cl ⁻)	< 15ppm

cf) These values are measured values and not guaranteed value

8. Remark

* 1) Peel strength on SUS#304

** JIS Z 0237 / KS A 1107
Peeling speed : 300mm/min
Peeling angle : 180deg.