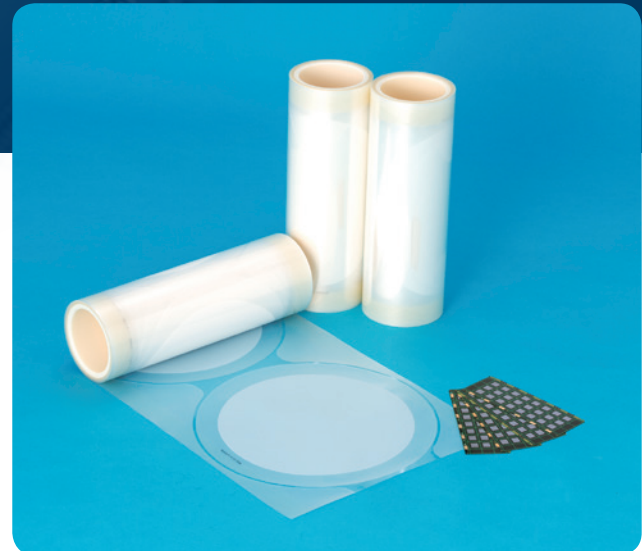


FURUKAWA Die Attach Film

Furukawa's one-stop-manufacturing provide highly reliable and totally well-balanced DDF with original DAF and DC tape.

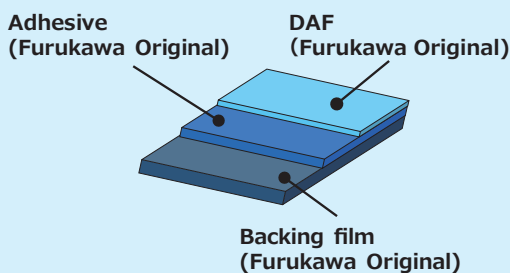


Core Technology of AF Series

Original technology in AT & FUNCTIONAL PLASTICS DIVISION is development and production of tape for semiconductor field.

Based on those technologies such as sheet manufacturing, blending knowhow of high-polymer material, and adhesion control, original die attach film is newly released. Including dicing tape for die attach film, Furukawa electric provides well-balanced products as "AF Series".

DDF Construction



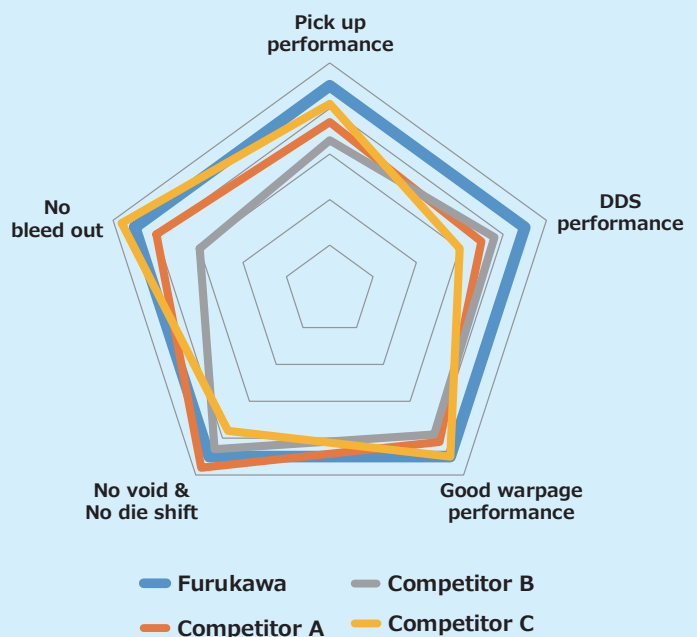
Furukawa original design

- Sheet manufacturing knowhow
- Blending knowhow of high-polymer material
- Adhesion control knowhow
- Original die attach film

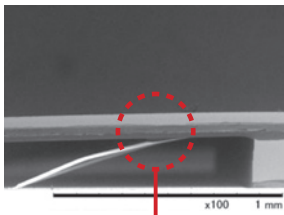


Highly reliable and totally well-balanced DDF

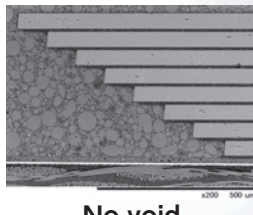
Performance Balance Chart



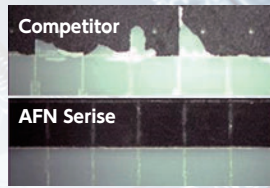
Advantages



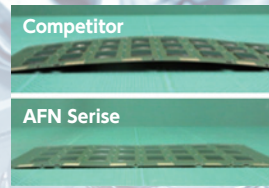
No bleed out



No void
No die shift



Pick up performance



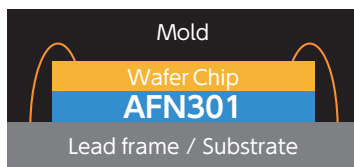
Good warpage performance



DDS performance

Features

AFN301



Die to Substrate

AFN303



Die to Die

AFN601



Film on Wire (FOW)

Properties

DAF Type			AFN301	AFN303	AFN601
Curing Condition			150deg.C × 1h	150deg.C × 1h	120deg.C × 1h or 140deg.C × 0.5h
DAF thickness		μm	20	10	50 / 60 / 80
General DC tape Type			UV type "K13"	UV type "K13"	UV type "K13"
DC tape thickness		μm	100	100	100
Recommended UV dosage		mJ/cm ²	200	200	200
CTE	alpha1	ppm/K	36	33	25
	alpha2	ppm/K	125	121	70
Tg (TMA)		deg.C	110	120	160
Meltling Viscosity	60deg.C	Pa·s	120000	50000	16500
	120deg.C	Pa·s	1900	1500	690
	150deg.C	Pa·s	300	500	600
Elastic Modulus	25deg.C	MPa	5600	5000	7100
	100deg.C	MPa	4800	4100	6200
	150deg.C	MPa	180	250	5100
	200deg.C	MPa	60	135	2000
	250deg.C	MPa	54	146	730
Die Shear Strength	@ 24deg.C	MPa	55	74	34
	@ 260deg.C	MPa	29	14	8

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