

# MARPROOF™ AM

## Acrylic polymer for excellent adhesion

### Features

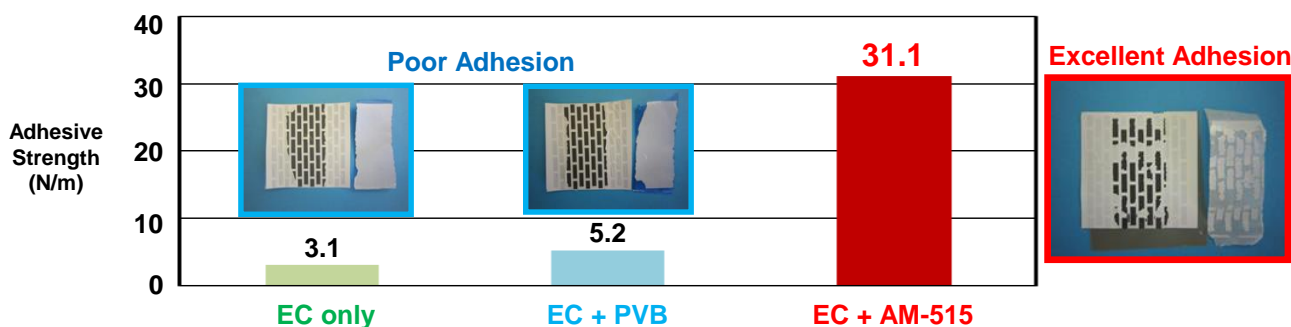
- **Good printing performance** good solubility with ethyl cellulose
- **Excellent adhesive strength** between electrode layer and dielectric sheet during manufacturing
- **Good heat decomposition** during calcination

### Product

Product Name	Molecular weight	Appearance	Solid content (%)	Solvent
AM-515 (Under Development)	ca. 5,000	Slightly yellow liquid	ca. 50	Terpineol group Carbitol group

### Performance

#### 1. Adhesive Performance



#### ※Evaluation Method

Peeling green sheet with tape after thermal compression

Thermal compression : 50°C, 100kg/cm<sup>2</sup>, 5 sec.

Peeling : 180°, with adhesive tape

Green sheet

(BaTiO<sub>3</sub>)

Electrode layer

(Ni Paste)

**MARPROOF™ AM series enhance adhesive strength between electrode layer and green sheet. It makes electrode pattern easy to remain on green sheet.**

#### <Composition of metal paste>

Ni	45%
BaTiO <sub>3</sub>	10%
ESLEAM™ 221P (Dispersant)	0.5%
<b>Binder polymer</b>	<b>3.0%</b>
DHTA (Solvent)	residue

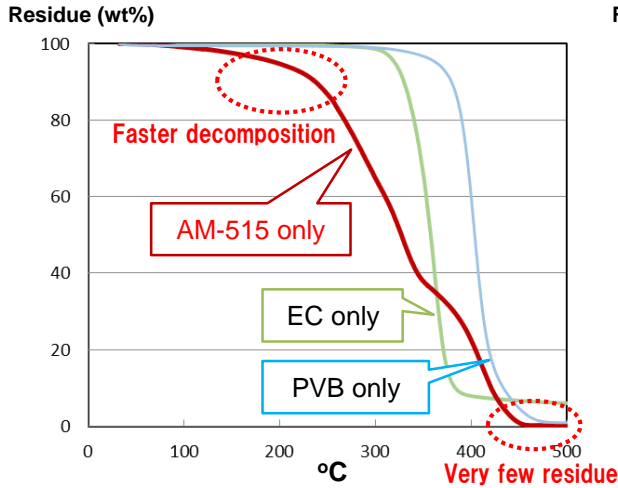
#### <Composition of Binder polymer>

Item	EC/ added polymer (wt%)
<b>EC only</b>	STD-45
<b>EC + PVB</b>	STD-45/PVB = 70/30
<b>EC + AM-515</b>	STD-200/MARPROOF™ AM-515 = 70/30

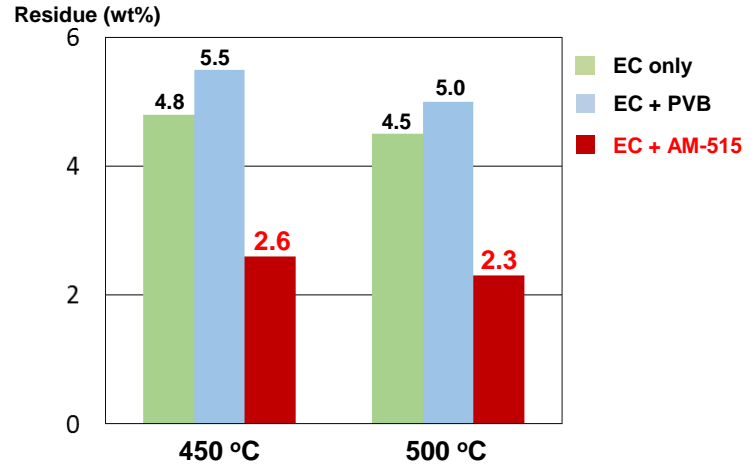
EC: Ethyl Cellulose, STD-45: EC(Dow Chemical, Mw 140,000), STD-200: EC(Dow Chemical, Mw 190,000)  
PVB: Poly Vinyl Butyral, DHTA: Dihydro Terpineol Acetate

## 2. Thermal Decomposition

◆ TG (Under N<sub>2</sub> Atmosphere, 10 °C/min)

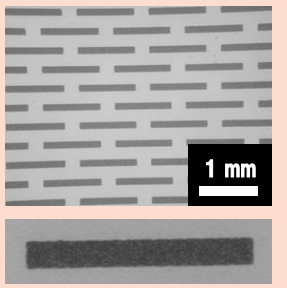
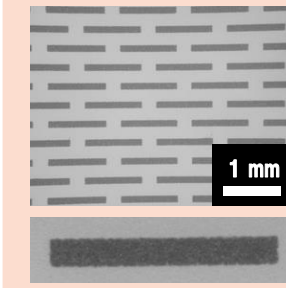
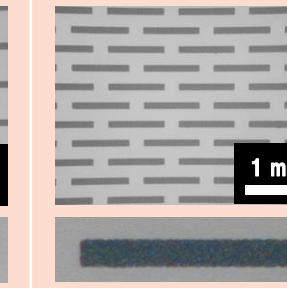


◆ Residue after calcination at constant temperature (Under N<sub>2</sub> Atmosphere, 10min)



**MARPROOF™ AM shows excellent thermal decomposition performance.  
It promotes decomposition of ethyl cellulose.**

## 3. MLCC performance

	EC only	EC + PVB	EC + AM-515
Appearance after printing			
Capacitance [nF]	413.5	-	415.8
Dissipation Factor [%]	3.57	-	3.61
Insulation Resistance [MΩ]	2.8 × 10 <sup>4</sup>	-	3.0 × 10 <sup>4</sup>

1608 size pattern (screen #500 diameter:16μmΦ)

**Metal paste with MARPROOF™ AM shows equivalent printing performance compared with EC.**

## Regulatory Status

Item	CAS No.	CSCL (Japan)	ECN (Taiwan)	IECSC (China)	ECL (Korea)	TSCA (USA)
AM-515	Registered	On List	On List	On List	On List	Not on List

We can customize products upon request. Please feel free to contact us.

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