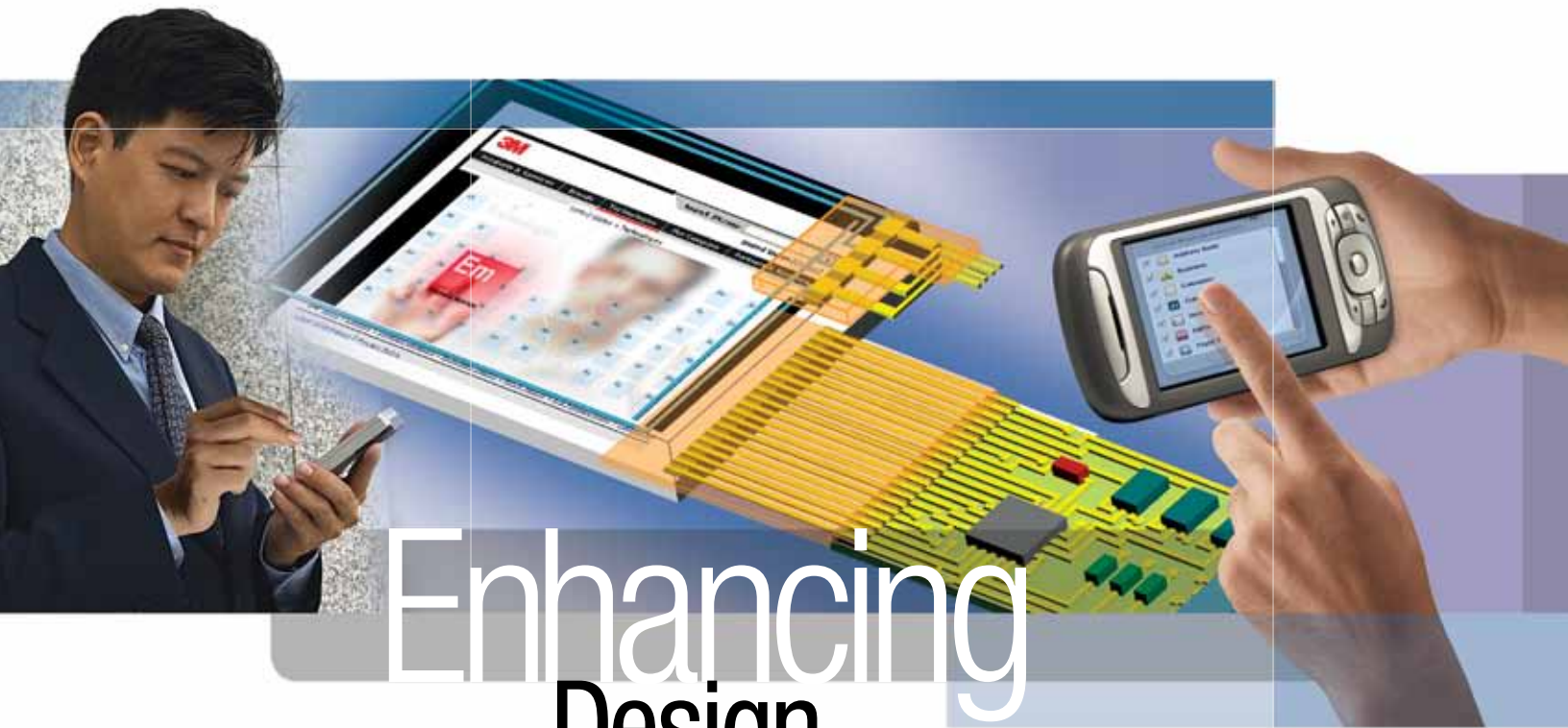


3M™ Anisotropic Conductive Film
For Touchscreen Applications



Enhancing Design Flexibility

- Electrically conductive film
- Low temperature bonding to most plastic flex circuits
- Fast cure time with low pressure
- Flex-to-flex or flex-to-board



3M™ Anisotropic Conductive Film for Touchscreen Applications

Advanced adhesive technology for today's plastic screens

Electronic devices continue to get smaller, lighter, thinner and faster. They also have dramatically increased functions: watch TV, take a picture, listen to music, make a phone call, surf the Web or answer e-mails, all on a single device. The serious challenge for product designers is how to enable the user to access all that functionality with a simple, easy-to-use interface. One solution is the use of touch screens.

3M™ Anisotropic Conductive Films (ACF) enable designers to use new touch-sensitive display materials like ITO-coated PET. These heat-bondable, electrically conductive adhesive films consist of a thermoset-thermoplastic adhesive matrix randomly loaded with conductive particles which allow interconnection of circuit lines through the adhesive thickness, but spaced far enough apart to be electrically insulating in the plane of the adhesive. Application of heat and pressure causes the adhesive to flow and to bring the circuit pads into contact by trapping the conductive particles.

The low-temperature and low-pressure cure and short bond time of these adhesives make them the ideal choice for the demanding applications of flex-to-board, flex-to-flex and flex-to-ITO-coated plastic.

Properties

	Application	Bonding Temperature (°C)	Bonding Time (sec)	Bonding Pressure (MPa)	Particle Diameter (μ)	Adhesive Thickness (μ)	Pitch Minimum (μ)	Minimum Pad Area (sq mm)	Connection Resistance (mOhms)	90° Peel Adhesion (g/cm)	Temp/Humidity Aging (°C/%rh)	Temp Cycling (°C)
ACF 7371	Flex on Plastic/Glass	140-170	10 - 15	1-2	10	25	200	0.2	<100	>700	85/85	-40 to 85
ACF 7378	Flex-on-board	160-180	5	3-4	10	40	200	0.2	<100	>1000	85/85	-40 to 85
ACF 7371-20	Touch panel	140-170	10 - 15	1-2	20	35	500	0.5	<20	>600	85/85	-40 to 85
ACF 7376-10	Camera module	140-160	7 - 15	1-2	10	40	200	0.1	<20	>900	85/85	-40 to 85
ACF 7376-30	Camera module	140-160	7 - 15	1-2	30	45	500	0.5	<20	>700	85/85	-40 to 85
ACF 7379	Glass	160-190	10 - 20	1-2	10	25	100	0.05	<3000	>700	85/85	-40 to 85

Product Selection Guide

	Flex Type			Connection Type			
	Silver Ink on Polyester	Gold/Copper on Polyester	Gold/Copper on Polyimide	Flex to Glass	Flex to Plastic Device	Flex to PCB	Flex to Flex
ACF 5363				x		x	x
ACF 7303	x	x		x ¹	x ²	x	x
ACF 7371	x	x		x	x		x
ACF 7378		x		x		x	x
ACF 7371-20	x	x		x	x		x
ACF 7376-10	x	x		x	x	x	x
ACF 7376-30	x	x		x	x	x	x
ACF 7379	x	x		x			

¹ Tested only for silver frit; not suitable for ITO traces.

² Suitable for silver ink traces only, not suitable for ITPO traces

Precautionary Information

Refer to Product Label and Material Safety Data Sheet for Health and Safety Information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501.

Important Notice: Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use.

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