

Bio Product Selector Guide

Consumer Segment

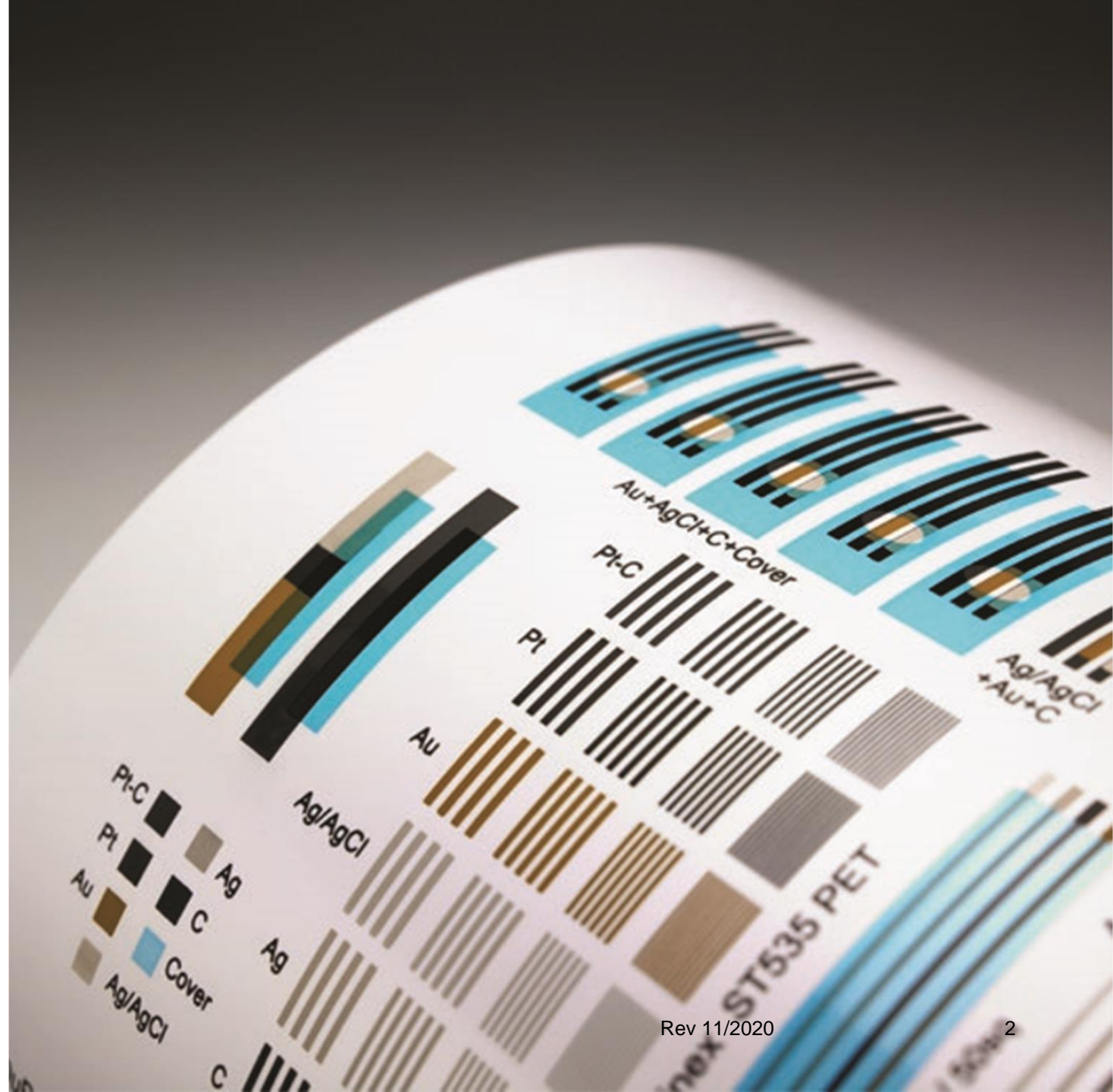
Our Solutions

DuPont MCM Bio product line offers

- High volume capability with exceptional lot to lot consistency
- Quickly established stable electrode performance
- Proven new ISO standard

Our Position

- Over 50 years, DuPont has been a leading innovator and global supplier to the display, touch panel and sensors industry
- Proud to serve as global leader in Biomedical Sensors industry with highly stable electrode systems in Point-Of-Care monitoring



Product Selector Guide

Application Area	Silver Conductor Compositions	Silver/Silver Chloride Compositions (Ag/AgCl Ratio)	Carbon and Silver / Carbon Compositions	Novel Material Compositions	Dielectric Composition
Biosensors (e.g. Blood Glucose, CGM, ECG)	5000 5025 5028 5065	5874 (65/35) 5876 (30/70) 5880 (80/20)	5085 (Ag/C) BQ221 (C) BQ226 (C) BQ242 (C)	7112 (Pt/C) <i>Custom Products in Development</i>	5018 (UV) 5036 BQ10 (UV)
Iontophoretic Drug Delivery	5000	5874 (Cathode/Anode) 5876 (Cathode)			5018 (UV) 5036
Ion Selective Sensors (e.g. Blood Electrolytes)	5000 5025 5028 5065	5874 (65/35)	7102 (C)		5018 (UV) 5036
Medical Electrodes	5000	5880 (80/20)		<i>Custom Products in Development</i>	5018 (UV) 5036
PTF Sensors	5000 5025 5028 5065		5524 (Ag/C) 7105 (C)	7112 (Pt/C) BQ321 (Pt) BQ331 (Au)	5018 (UV) 5036 BQ10 (UV)

Silver Conductor Composition

Product	Application	Features	Coverage (cm ² /gram)	Curing Box, Reel to Reel (minute)	Solid Average (wt%)	Viscosity (Pa.s)	Resistivity (mΩ/sq/mil)
5000	<ul style="list-style-type: none"> • Biosensors • Iontophoretic Drug Delivery • Medical Electrodes • PTF Sensors 	<ul style="list-style-type: none"> • High Abrasion Resistance • Long Screen Life 	475 (ft ² /mil/gal)	120°C (8-10) 140°C (1-1.5)	58-62 ^A	3.5-16 ¹	≤15
5025	<ul style="list-style-type: none"> • Biosensors • Iontophoretic Drug Delivery • PTF Sensors 	<ul style="list-style-type: none"> • High Temperature Use • Fast Drying 	230 – 320	120°C (5-6) 140°C (1-1.5)	68-72 ^A	20-30 ¹	≤15
5028	<ul style="list-style-type: none"> • Biosensors • Iontophoretic Drug Delivery • PTF Sensors 	<ul style="list-style-type: none"> • High Electrical Conductivity • Compatible With Polycarbonate 	230 – 320	120°C (8-10) 140°C (1-1.5)	69-71 ^A	15-30 ¹	≤12
5065	<ul style="list-style-type: none"> • Biosensors • PTF Sensors 	<ul style="list-style-type: none"> • High Conductivity 	170	130°C (10-20) 140°C (2)	65 ^A	8-18 ¹	6

^A150C Solids %, ¹Brookfield 0.5 HBT, cup and spindle SC4-14/6R, 10rpm, 25°C

Silver/Silver Chloride Compositions

Product	Application	Features	Coverage (cm ² /gram/mil)	Curing Box, Reel to Reel (minute)	Solid Average (wt%)	Viscosity (Pa.s)	Resistivity (mΩ/sq/mil)
5874	<ul style="list-style-type: none"> Biosensors Iontophoretic Drug Delivery Ion Selective Sensors 	<ul style="list-style-type: none"> Ratio Of 65/35 Ag/AgCl Equal Electrode Capacity For Anode And Cathode For Iontophoretic Applications Low Electrode Polarization High Stability Reference Potential Fast Drying High Solid For Thicker Printing 	53.1	140°C (3-5)	83.4-86.4 ^A	23-35 ¹	≥ 70
5876	<ul style="list-style-type: none"> Biosensors Iontophoretic Drug Delivery 	<ul style="list-style-type: none"> Ratio Of 32/68 Ag/AgCl High Silver Chloride Content Fast Signal Response Stable Potential 	8-11 mg/cm ²	120°C (3-5) 140°C (1-1.5)	81.5-85.5 ^A	23-35 ¹	/
5880	<ul style="list-style-type: none"> Biosensors Medical Electrodes 	<ul style="list-style-type: none"> Ratio Of 80/20 Ag/AgCl Low Electrode Polarization High Electrical Conductivity Excellent Stability On Contact With High Salt Gel 	~200	120°C (8-10)	84-86 ^A	30-60 ¹	≥ 25

^A150°C Solids %, ¹Brookfield 0.5 RVT, cup and spindle SC4-14/6R, 10rpm, 25°C

Carbon and Silver/Carbon Compositions

Product	Application	Features	Coverage (cm ² /gram)	Curing Box, Reel to Reel (minute)	Solid Average (wt%)	Viscosity (Pa.s)	Resistivity mΩ/sq/mil
5085 (Ag/C)	Biosensors	<ul style="list-style-type: none"> Lower Cost Than Ag Conductors Fast cure 	140-300	130°C (5-6) 140°C (1)	41-44 ^B	20-50 ¹	40-120
5524 (Ag/C)	PTF Sensors	<ul style="list-style-type: none"> Excellent High Temperature Stability Lower Cost Than Ag Conductor 	140-300	120°C (5-6) 140°C (1)	53-56 ^B	200-425 ¹	20-35
7102 (C)	Ion Selective Sensors	<ul style="list-style-type: none"> Excellent Adhesion To Polycarbonate Substrates High Conductivity Carbon Composition High Temperature Stability 	103/mil	120°C (5-6)	34.5-37.5 ^A	60-25 ¹	20000-30000
7105 (C)	Biosensors	<ul style="list-style-type: none"> High Abrasion Resistance High Stability Low Resistivity Carbon Good Activity In Biomedical Applications 	103/mil	120°C-130°C (5) IR:130°C (2-3)	32.5-36.5 ^A	15-70 ¹	< 20000
BQ221	Biosensors	<ul style="list-style-type: none"> High Conductivity Carbon Composition High Sensitivity Long Screen Life 	200/0.5mil	130°C (5-10) 140°C (1)	32-34 ^A	35-85 ¹	< 100000
BQ226	Biosensors	<ul style="list-style-type: none"> Low Resistivity Carbon High Abrasion Resistance High Stability Good Activity In Biomedical Applications 	~300	130°C (10-15) IR:140°C (1-1.5)	32.5-36.5 ^A	15-70 ¹	20000-30000
BQ242	Biosensors	<ul style="list-style-type: none"> High Electrochemical Activity High Conductivity / Adhesion To Polyester Superior Electrode Wettability 	250-280	130°C (5-15)	38-40 ^A	30-70 ¹	10000-12500



^A150°C Solids %, ^B750°C Solids %, ¹Brookfield, cup and spindle SC4-14/6R, 10rpm, 25°C

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Novel Materials Compositions

Product	Application	Features	Coverage (cm ² /gram)	Curing Box, Reel to Reel (minute)	Solid Average (wt%)	Viscosity (Pa.s)	Resistivity (mΩ/sq/mil)
7112	Biosensors	<ul style="list-style-type: none"> Platinum/Carbon Composition High Sensitivity For A Variety Of Sensor Applications 	152/mil	130°C (5-10) 140°C (1)	34.0-38.0 ^A	40-80 ¹	200-400
BQ321	PTF Sensors	<ul style="list-style-type: none"> Platinum Composition High Sensitivity Strong Adhesion To A Variety Of PET Substrates 	52/mil	130°C (5-10) 140°C (1)	44.0-46.5 ^A	5-10 ¹	5-10
BQ331	PTF Sensors	<ul style="list-style-type: none"> Gold Composition High Sensitivity Strong Adhesion To A Variety Of PET Substrates 	36	130°C (5-10) 140°C (1)	85.5-88.0 ^B	15-30 ¹	0.5

^A150°C Solids %, ^B750°C Solids %, ¹Brookfield 0.5 RVT, cup and spindle SC4-14/6R, 10rpm, 25°C

Dielectric Composition

Product	Application	Features	Coverage (cm ² /gram/mil)	Curing Box, Reel to Reel (minute)	Solid Average (wt%)	Viscosity (Pa.s)	Break Down Voltage (V/mil DC)
5018	<ul style="list-style-type: none"> Biosensors Iontophoretic drug delivery Ion selective sensors Medical Electrodes PTF sensors 	<ul style="list-style-type: none"> Fast UV Cure High BDV Performance Cross-over Or Encapsulant Blue, Clear And Green Color 	290	UV curable (500-1500 mJ/cm*)	100 ^A	15-30 ¹	500
5036	<ul style="list-style-type: none"> Biosensors Iontophoretic Drug Delivery Ion selective sensors Medical Electrodes PTF Sensors 	<ul style="list-style-type: none"> Protective Barrier For Graphic Ink Overprint Strong Adhesion To A Variety Of PET Substrates Compatible With Most BQ Series Conductors 	/	130°C (5)	28-30 ^A	25-45 ¹	500
BQ10	<ul style="list-style-type: none"> Biosensors 	<ul style="list-style-type: none"> Fast UV Cure High Resolution Flexible insulator Zero VOC When Properly Cured Strong Adhesion To Polyester And Polycarbonate Substrates Works Well With 7112 	290	UV curable (500-1500 mJ/cm*)	100 ^A	30-70 ¹	/

^A150°C Solids %, ¹Brookfield 0.5 RVT, cup and spindle SC4-14/6R, 10rpm, 25°C



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