



# EXTRUSION PRODUCTS

ACRYPLEX | ABS | IMPAX | TUFLITE



egrplastics.com

# ACRYPLEX GP/IM

Acryplex™ is  
EGR's extruded  
PMMA sheet

Available in **General Purpose GP**, **Impact Modified IM50** and **IM100** grades.

Applications for ACRYPLEX™ are almost endless, however the material is primarily used for indoor and outdoor signage, both vacuum formed and flat. Other applications include:

- automotive accessories,
- skylights,
- safety glazing,
- point of sale display items,
- marine windscreens,
- caravan windows,
- road noise barriers,
- LCD display units,
- architectural glazing.

Supply of ACRYPLEX™ via EGR has advantages given the option of wider production widths up to 2540mm. EGR can also supply impact modified material on continuous reels which allows greater flexibility in supply and cut to size. ACRYPLEX™ is also available in textures of RWC and FF upon request.

## ACRYPLEX GP GENERAL PURPOSE EXTRUDED ACRYLIC

### GENERAL

Density	ISO1183	1.19 (0.0429)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )
Water Absorption	ISO62	0.3	%

### MECHANICAL

Tensile Strength	ISO527-2	70 (10152)	MPa (psi)
Elongation at Break	ISO527-2	4	%
Tensile Modulus	ISO527-2	3000 (435097)	MPa (psi)
Flexural Strength	ISO178	110 (15956)	MPa (psi)
Flexural Modulus	ISO178	3000 (435097)	MPa (psi)
Charpy Impact Strength, Notched	ISO179-1	1.8 (0.856)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
Izod Impact Strength, Notched	ISO180/1A	1.5 (0.713)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )

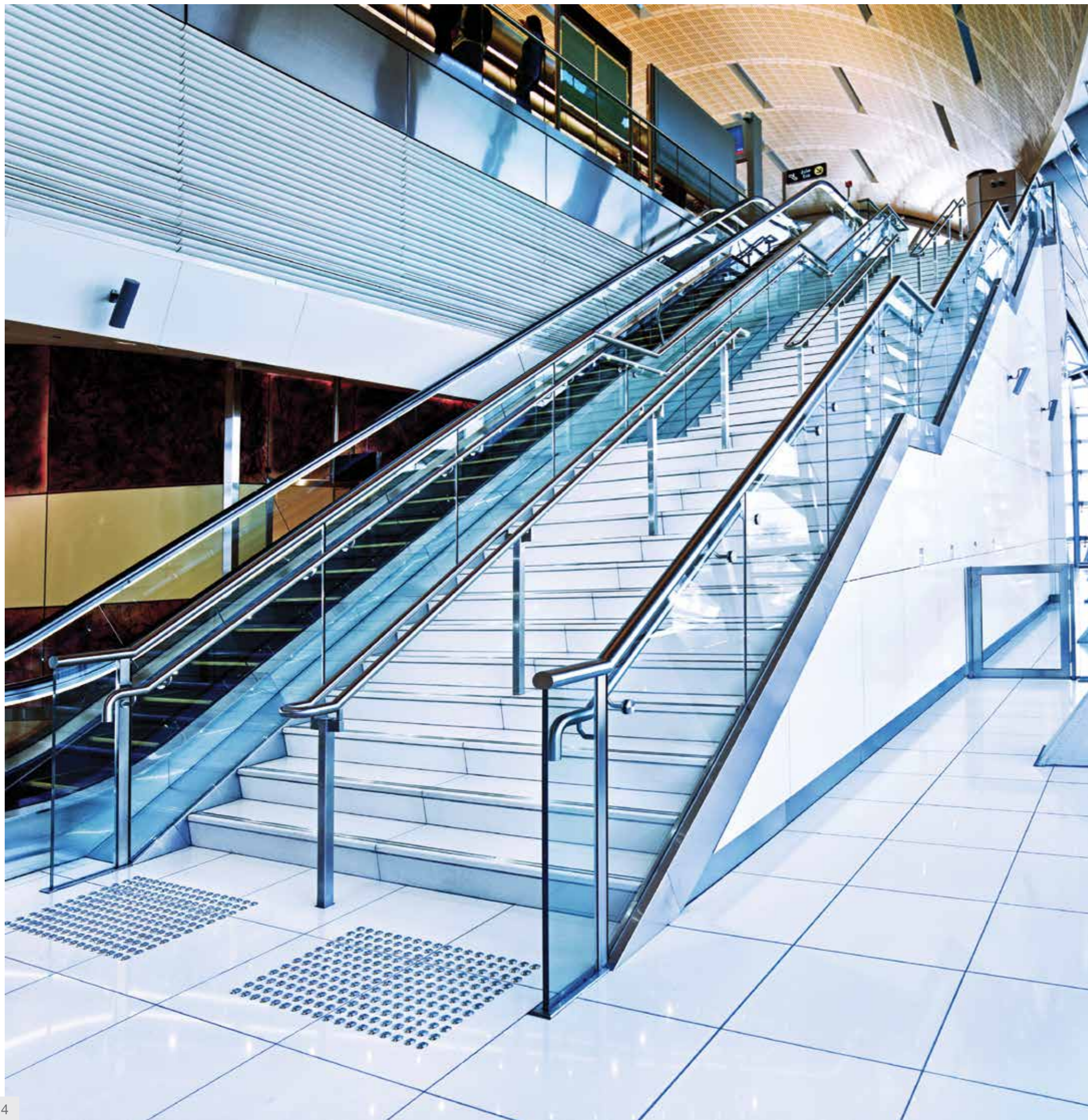
### THERMAL

Vicat Softening Temperature, B50, Annealed	ISO306	102 (215)	°C (°F)
Heat Distortion Temperature, 1.8MPa	ISO75	92 (197)	°C (°F)
Linear Thermal Expansion	DIN53752	7	/°K x 10 <sup>-5</sup>
Continuous Service Temperature	-	70 (158)	°C (°F)
Maximum Short Term Temperature	-	80 (176)	°C (°F)
Degradation Temperature	-	> 280 (> 536)	°C (°F)

### OPTICAL

Light Transmission (3mm/0/118")	DIN5036-3	92	%
Refractive Index	DIN5036-3	1.49	-





## ACRYPLEX IM100 IMPACT MODIFIED EXTRUDED ACRYLIC

GENERAL			
Density	ISO1183	1.15 (0.0415)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )
Water Absorption	ISO62	0.3	%
MECHANICAL			
Tensile Strength	ISO527-2	40 (5801)	MPa (psi)
Elongation at Break	ISO527-2	25	%
Tensile Modulus	ISO527-2	1800 (261058)	MPa (psi)
Flexural Strength	ISO178	65 (9427)	MPa (psi)
Flexural Modulus	ISO178	1800 (261058)	MPa (psi)
Charpy Impact Strength, Notched	ISO179-1	7 (3.3)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
Izod Impact Strength, Notched	ISO180/1A	7 (3.3)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
THERMAL			
Vicat Softening Temperature, B50, Annealed	ISO306	95 (203)	°C (°F)
Heat Distortion Temperature, 1.8MPa	ISO75	76 (168)	°C (°F)
Linear Thermal Expansion	DIN53752	11	/°K x 10 <sup>-5</sup>
Continuous Service Temperature	-	65 (149)	°C (°F)
Maximum Short Term Temperature	-	75 (167)	°C (°F)
Degradation Temperature	-	> 280 (> 536)	°C (°F)
OPTICAL			
Light Transmission (3mm/0/118")	DIN5036-3	90	%
Refractive Index	DIN5036-3	1.49	-

## ACRYPLEX IM50 IMPACT MODIFIED EXTRUDED ACRYLIC

GENERAL			
Density	ISO1183	1.17 (0.0422)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )
Water Absorption	ISO62	0.3	%
MECHANICAL			
Tensile Strength	ISO527-2	55 (7976)	MPa (psi)
Elongation at Break	ISO527-2	15	%
Tensile Modulus	ISO527-2	2300 (333575)	MPa (psi)
Flexural Strength	ISO178	85 (12327)	MPa (psi)
Flexural Modulus	ISO178	2300 (333575)	MPa (psi)
Charpy Impact Strength, Notched	ISO179-1	3 (1.427)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
Izod Impact Strength, Notched	ISO180/1A	4 (1.902)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
THERMAL			
Vicat Softening Temperature, B50, Annealed	ISO306	98 (208)	°C (°F)
Heat Distortion Temperature, 1.8MPa	ISO75	85 (185)	°C (°F)
Linear Thermal Expansion	DIN53752	8.5	/°K x 10 <sup>-5</sup>
Continuous Service Temperature	-	70 (158)	°C (°F)
Maximum Short Term Temperature	-	80 (176)	°C (°F)
Degradation Temperature	-	> 280 (> 536)	°C (°F)
OPTICAL			
Light Transmission (3mm/0/118")	DIN5036-3	91	%
Refractive Index	DIN5036-3	1.49	-

# ABS - ACRYLONITRILE BUTADIENE STYRENE

Single Layer  
and Coextruded  
Sheet

EGR ABS is available in both sheets and rolls.

ABS has excellent forming, toughness and rigidity and is particularly good for deep draw vacuum forming for products prone to impact abuse in the form of knocks, scuffing and scratching. ABS has excellent chemical resistance, however it has limited UV resistance. If the application is external, EGR recommends capping ABS with PMMA, ASA or other UV resistant resins.

ABS has the following applications:

## AUTOMOTIVE AND TRANSPORT

Vehicle/truck linings, wheel arch trim, fender flares, arm rests, helmets, seat backs, battery trays, bus racks.

## RECREATIONAL

Marine components, instrumentation consoles for boats, helmet casings, luggage, rooftop carry cases.

## INDUSTRIAL

Wall linings, air conditioning ducting, fan housings, point of sale display units, general containers, electrical components.



## EXTRUDED ABS

### GENERAL

Density	ISO1183	1.05 (0.038)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )
Water Absorption	ISO62	0.95	%

### MECHANICAL

Tensile Strength	ISO527-2	45 (6526)	MPa (psi)
Elongation at Break	ISO527-2	30	%
Tensile Modulus	ISO527-2	2400 (348000)	MPa (psi)
Flexural Strength	ISO178	70 (10152)	MPa (psi)
Flexural Modulus	ISO178	-	MPa (psi)
Izod Impact Strength, Notched, 23°C	ISO180/1A	33 (15.6)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
Izod Impact Strength, Notched, -30°C	ISO180/1A	12 (5.71)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )

### THERMAL

Vicat Softening Temperature, B50, Annealed	ISO306	100 (212)	°C (°F)
Heat Distortion Temperature, 1.8MPa	EGR TS-001	80 (176)	°C (°F)
Linear Thermal Expansion	DIN53752	8-11	/°K x 10 <sup>-5</sup>



# IMPAX™ POLYCARBONATE

EGR's superior polycarbonate sheet



IMPAX™ is available in General Purpose and UV protected versions, offering superior outdoor serviceability. IMPAX™ is also available in textured surfaces.

IMPAX™ has over 250 times the breaking strength of glass and is used where extreme conditions call for a highly impact resistant product. This includes:

- safety screens in banks,
- vandal prone signage,
- safety guards around dangerous equipment and machinery,
- sight glasses,
- architectural glazing,
- headlight protectors,
- display cases for high value objects,
- correctional facility glazing,
- armoured vehicles.



## IMPAX UV PC POLYCARBONATE

### GENERAL

Density	ISO1183	1.20 (0.04332)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )
Water Absorption	ISO62	0.2	%

### MECHANICAL

Tensile Strength	ISO527-2	60 (8702)	MPa (psi)
Elongation at Break	ISO527-2	80	%
Tensile Modulus	ISO527-2	2300 (333575)	MPa (psi)
Flexural Strength	ISO178	90 (13052)	MPa (psi)
Flexural Modulus	ISO178	2300 (333575)	MPa (psi)
Charpy Impact Strength, Notched	ISO179-1	40 (19.02)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
Izod Impact Strength, Notched	ISO180/1A	70 (33)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )

### THERMAL

Vicat Softening Temperature, B50, Annealed	ISO306	135 (275)	°C (°F)
Heat Distortion Temperature, 1.8MPa	ISO75	125 (257)	°C (°F)
Linear Thermal Expansion	DIN53752	7	/°K x 10 <sup>-5</sup>
Continuous Service Temperature	-	110 (230)	°C (°F)
Maximum Short Term Temperature	-	120 (248)	°C (°F)
Degradation Temperature	-	> 280 (> 536)	°C (°F)

### OPTICAL

Light Transmission (3mm/0/118")	DIN5036-3	86	%
Refractive Index	DIN5036-3	1.59	-



# TUFLITE™ PETG

Exceptional clarity and fabrication capabilities



TUFLITE™ is EGR's copolymer thermoplastic PETG sheet that has exceptional clarity and fabrication capabilities.

TUFLITE™ PETG is ideally suited for manufacturing vacuum formed point of sale parts and industrial guards. It has superior vacuum forming properties with no pre-drying required prior to forming and is ideally suited for deep draw applications.



## TUFLITE GP GENERAL PURPOSE EXTRUDED PETG

GENERAL			
Density	ISO1183	1.27 (0.0458)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )
Water Absorption	ISO62	0.3	%
MECHANICAL			
Tensile Strength	ISO527-2	50 (7252)	MPa (psi)
Elongation at Break	ISO527-2	54	%
Tensile Modulus	ISO527-2	2050 (297316)	MPa (psi)
Flexural Strength	ISO178	70 (10152)	MPa (psi)
Flexural Modulus	ISO178	2050 (297316)	MPa (psi)
Charpy Impact Strength, Notched	ISO179-1	7 (3.33)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
Izod Impact Strength, Notched	ISO180/1A	7 (3.33)	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )
THERMAL			
Vicat Softening Temperature, B50, Annealed	ISO306	79 (174)	°C (°F)
Heat Distortion Temperature, 1.8MPa	ISO75	64 (147)	°C (°F)
Linear Thermal Expansion	DIN53752	7	/°K x 10 <sup>-5</sup>
Continuous Service Temperature	-	55 (131)	°C (°F)
Maximum Short Term Temperature	-	65 (149)	°C (°F)
Degradation Temperature	-	> 250 (> 482)	°C (°F)
OPTICAL			
Light Transmission (3mm/0.118")	DIN5036-3	87	%
Refractive Index	DIN5036-3	1.57	-

# THE EGR GROUP

Prior to 1999, EGR imported sheet from the USA and Asia for its Automotive and Display manufacturing operations.

As part of our ongoing vertical integration program the EGR Extrusion Division was created to deliver worlds best practice optical grade extruded sheet as part of our expanding manufacturing capability.

The EGR Extrusion Division now includes three high volume sheet lines with capacity in excess of 12,000 tonne per annum. The facilities include optical grade clean rooms, advanced resin formulation control, real time processing control, unique low reversion capability and fully automated stacking operations. Most sheet width, length and thickness requirements are available, and range up to 2540mm wide and from 0.75mm up to 25mm thick.

EGR Extrusion Division is independently accredited to ISO 14001 and manufactures all its products under the strict conditions of the EGR Environmental Management System. All EGR sheet products are fully recyclable and the manufacturing process does not release any harmful emissions to the environment.



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