

mediprene® a

2K



ADHESION COMPOUNDS

TPE

Mediprene® A series

Adhesion in overmoulding and co-extrusion applications

Introduction

Overmoulding is a powerful technique that allows the production of finished parts in soft and hard material combinations without trimming or assembly.

It offers many design and product advantages, allowing designers to differentiate products while meeting important user and patient demands, including soft-touch and cushioning for greater comfort and non-slip surfaces with improved grip for safety.

Special features

- Unfilled
- PVC, silicone & latex free
- 35 to 65 Shore A
- Medically approved raw materials
- Production site accredited to ISO 13485
- Sterilizable with gamma, EtO and steam
- Flexibility over broad temperature range
- Easy to colour
- Resistant to many fluids used in the health care environment
- Short cycle times

Adhesion to a variety of substrates

The standard Mediprene® series bonds very well to polyolefins like polyethylene (PE) and polypropylene (PP). However, in several medical applications transparent engineering plastics like ABS, PC, PETG and SMMA (and their blends) are utilised. The Mediprene® A2 series has been developed to address demands for medical grade TPEs that bond well to these substrates.

Regulatory compliance

Representative Mediprene® grades have passed cytotoxicity tests according to ISO 10993-5 and are compliant with USP Class VI.

Mediprene® TPE materials are PVC, silicone and latex free, making them allergen free and a viable alternative to PVC based compounds.

Applications

Potential applications for the Mediprene® A series include; seals, membranes, closures, friction grips, soft-touch handles.

Mediprene® TPEs provide enhanced sealing capabilities in fluid environments.

A selection of Mediprene® A2 grades Adhesion onto ABS, PC, PETG and SMMA

Material	Hardness Shore A	Colour	Specific Gravity g/cm ³	Tensile Strength MPa	Elongation at Break %	Tear Strength kN/mm	Modulus 100% MPa	Modulus 300% MPa	MFR 5 kg/190°C g/10 min	Peel Force N/mm
Test Method	ASTM D 2240 ¹		ASTM D 792	ASTM D 638	ASTM D 638	ASTM D 624	ASTM D 638	ASTM D 638	ASTM D 1238	ASTM D 903 ⁴
A2 500350M	35	Natural	0.94	3	550	16	1.0	2.0	30 ²	2.5
A2 500450M	45	Natural	0.96	4	550	21	1.5	2.7	17 ²	Cohesive ⁵
A2 500550M	55	Natural	0.97	5	500	24	2.0	3.5	7 ³	5
A2 500650M	65	Natural	1.00	7.5	650	30	2.8	4.6	1 ³	Cohesive ⁵

¹) 4mm

²) 5kg/190°C

³) 10kg/190°C

⁴) 90° peel tests conducted at 100 mm/min with Mediprene® A2 grade (2.5 mm thickness, 25 mm width) overmoulded onto ABS (Terlux 2802HD)

⁵) Cohesive means that bonding strength is greater than tensile strength

Processing

The material has excellent processing characteristics and can be processed using conventional thermoplastic fabricating methods, including injection moulding and extrusion.

Service Temperature Range -50 to +125°C (unstressed material)

Processing Temperatures	Injection Moulding	Extrusion
Barrel Temperatures °C	210 - 250	210 - 250
Mould Temperatures °C	30 - 60	

To achieve optimal bonding, it is important that the correct processing temperatures are used. The recommended melt temperature for the Mediprene® A2 series is 220-250°C. A steep temperature profile, starting with 180°C at the hopper should be applied. The surface temperature of the engineering plastic should be approximately 60°C.

The above information is, to the best of our knowledge, true and accurate, but any recommendations or suggestions which may be made are without guarantee, since the conditions of use are beyond our control. which may be made are without guarantee, since the conditions of use are beyond our control.

Vita Thermoplastic Polymers (VTP) and VTC Elastoteknik AB are members of the VTC TPE Group

Vita Thermoplastic Polymers (VTP)

United Kingdom

t : 44 (0)161 654 6616

f : 44 (0)161 654 2333

sales@vtctpe.com

VTC Elastoteknik AB

Sweden

t : 46 (0) 532 60 75 00

f : 46 (0) 532 60 75 99

info@elastoteknik.se

Paris Office

France

t : 33 (0) 160 43 17 17

f : 33 (0) 160 43 11 13

pgruyer@aol.com

For further information or to download this and other publications please visit

www.mediprene.com



www.mediprene.com