

STANDARD ABS PRODUCTS

Quality. Cost-efficiency. Endless possibilities.



INEOS
STYROLUTION

Driving Success. Together.

STANDARD ABS PRODUCTS

TERLURAN® // EMULSION ABS

Terluran®, INEOS Styrolution's emulsion ABS (eABS), has set worldwide standards for cost-effectiveness and product quality.

INEOS Styrolution's Terluran standard products (Terluran GP-35, Terluran GP-22 and Terluran HI-10) are made using state-of-the-art technology in large-scale facilities in Europe, Asia and North America. As the only global manufacturer of ABS products with many regional production sites, INEOS Styrolution's Terluran products are available across the world with identical quality and properties. The high-impact grade, Terluran SP-6, which is optimised for extrusion applications, is now available in Europe.

Due to its very bright and consistent intrinsic colour, Terluran is excellently suited for self-colouring, particularly when there is a need for brilliant colours. With its industry-leading performance profile, all Terluran grades fulfill a broad range of customer requirements. Besides natural grades for self-colouring, INEOS Styrolution also offers both general purpose grades, GP-22 and GP-35, in a standard black and Terluran GP-35 White as a base white version.

LUSTRAN® // MASS ABS

Lustran®, INEOS Styrolution's mass ABS (mABS), mainly focuses on the extrusion market, offering different levels of impact resistance and matt surface finishes.

INEOS Styrolution offers three Lustran grades, Lustran 552, Lustran 256 and Lustran E112LG in EMEA. These grades are renowned for their extraordinary thermoformability and excellent impact-rigidity-balance. Lustran is now also available in EMEA.

TERLURAN® ECO // RECYCLED ABS

This portfolio is rounded off by Terluran® ECO, INEOS Styrolution's mechanically recycled ABS (rABS), which is based on post-consumer recycled material and meets the sustainability requirements of the market.

Due to the selection of premium cooperation partners, this offering is suitable as a drop-in solution for conventional produced materials in visible prime surface finish applications. INEOS Styrolution offers two standard grades, Terluran ECO GP-22 MR50 and Terluran ECO GP-22 MR70.

PRODUCT DATA

KEY APPLICATIONS

- › Household applications
- › Housings for electronic devices
- › Automotive components
- › Sanitary applications
- › Toys
- › Gardening equipment

KEY PROPERTIES

- › Self-colourability
- › Impact strength
- › Flowability
- › Dimensional stability
- › Wide gloss range
- › Low temperature toughness



							
	AUTOMOTIVE	ELECTRONICS	HOUSEHOLD	CONSTRUCTION	HEALTHCARE	TOYS, SPORTS & LEISURE	PACKAGING
TERLURAN	✓	✓	✓	✓	✓	✓	✓
LUSTRAN	✓	✓	✓	✓		✓	✓
TERLURAN ECO	✓	✓	✓	✓		✓	✓

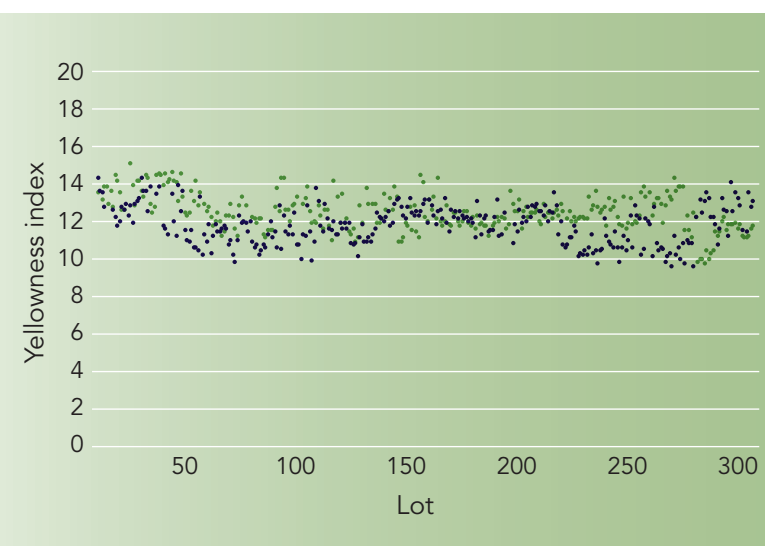
		PROPERTIES			PROCESSING					MECHANICAL								THERMAL		
		Polymer abbreviation	Density	Moisture absorption, equilibrium 23 °C/ 50% r.h.	Method: injection moulding (I), extrusion (E), blow moulding (B), blending (X)	Melt volume rate (220 °C/ 10 kg)	Melt temperature range	Mould temperature range	Mould shrinkage range	Tensile modulus	Tensile stress at yield, 23 °C	Tensile strain at yield, 23 °C	Tensile stress at break, 23 °C	Tensile strain at break, 23 °C	Charpy notched impact strength, 23 °C	Charpy unnotched impact strength, 23 °C	Hardness, Shore D	Heat deflection temperature, HDT A (annealed 4h/ 80 °C; 1.8 MPa)	Heat deflection temperature, HDT B (annealed 4h/ 80 °C; 0.45 MPa)	Vicat softening temperature, VST/ B/ 50
TEST METHOD			ISO 1183	ISO 62		ISO 1133	ISO 294	ISO 294	ISO 294-4	ISO 527	ISO 527	ISO 527	ISO 527	ISO 527	ISO 179/1eA	ISO 179/1eU	ISO 868	ISO 75-1/-2	ISO 75-1/-2	ISO 306
UNIT			kg/ m³	%		cm³/ 10 min	°C	°C	%	MPa	MPa	%	MPa	%	kJ/ m²	kJ/ m²		°C	°C	°C
Injection moulding																				
Enhanced flow	TERLURAN GP-35	eABS	1040	0,24	I	34	220-260	30-80	0,4-0,7	2300	44	2,4	-	15	19	125	99 Ball I.	92	95	95
Basic white	TERLURAN GP-35 WHITE	eABS	1040	0,24	I	34	220-260	30-80	0,4-0,7	2300	44	2,4	-	15	19	125	99 Ball I.	92	95	95
Impact strength	TERLURAN GP-22	eABS	1040	0,22	I	19	220-260	30-80	0,4-0,7	2300	45	2,6	-	10	22	180	97 Ball I.	94	99	96
High impact strength	TERLURAN HI-10	eABS	1030	0,21	I, E, B, X	5,5	230-260	30-80	0,4-0,7	1900	38	2,8	-	9	35	no break	74 Ball I.	93	97	90
Extrusion																				
High impact strength, high gloss	TERLURAN SP-6	eABS	1030	0,21	E, B	5,5	230-260	30-80	0,4-0,7	1900	38	2,8	-	9	35	no break	74 Ball I.	93	97	90
High impact, low gloss	LUSTRAN 552	mABS	-	-	I, E, B, X	6	220-260	30-80	0,4-0,7	2000	40	2,6	31	28	32	-	107 R	-	-	96
Medium impact, lowest gloss	LUSTRAN E112LG	mABS	1040	-	E, B, X	7	220-260	30-80	0,4-0,7	1600	28	2,9	32	75	11	-	98 R	-	-	95
Medium impact	LUSTRAN 256	mABS	-	-	I, E, X	14	220-260	30-80	0,4-0,7	2200	45	2,7	35	24	12	-	119 R	-	-	97
Post-consumer recycled ABS																				
Impact strength, 50% PCR content	TERLURAN ECO GP-22 MR50	rABS	-	-	I	22	220-260	30-80	0,4-0,7	2000	35	2,6	25	8	22	-	-	-	-	90
Flowability, 70% PCR content	TERLURAN ECO GP-22 MR70	rABS	-	-	I	20	220-260	30-80	0,4-0,7	2000	36	3,6	30	9	19	-	-	-	-	-

SELF-COLOURING MADE EASY

Terluran standard products have a very consistent, pale intrinsic colour, making them ideal for self-colouring. The consistent yellowness index of Terluran standard products allows final colour specifications to be narrow.

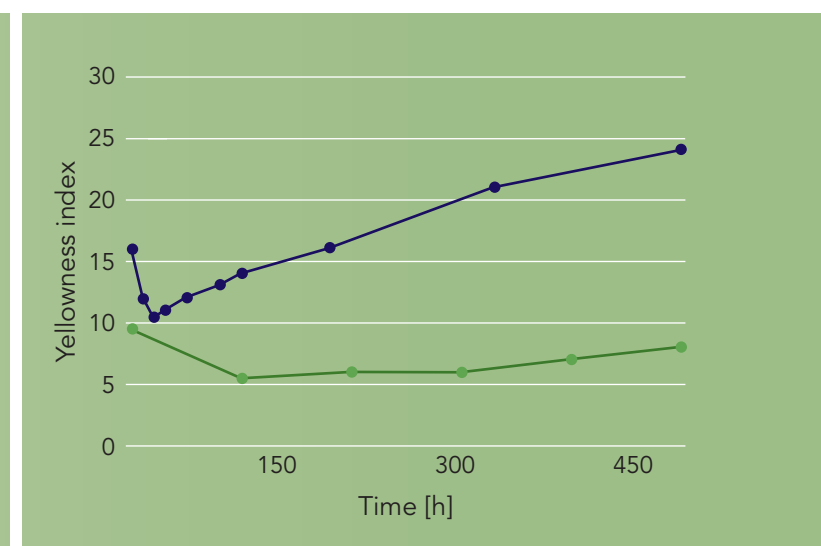


YELLOWNESS INDEX



● GP-35 NR ● GP-22 NR

UV RESISTANCE ISO 4892-2B



— GP-35 NR — GP-35 White

SELF-COLOURING WITH LIQUID COLOURING TECHNOLOGY

Terluran GP-35 White shares formulation and key properties with GP-35 natural. The grade solely contains titanium dioxide for white pigmentation and a UV stabiliser package. Terluran GP-35 White is suitable for most applications requiring white ABS, e.g. in household applications such as washing machines, refrigerators or kitchen appliances.



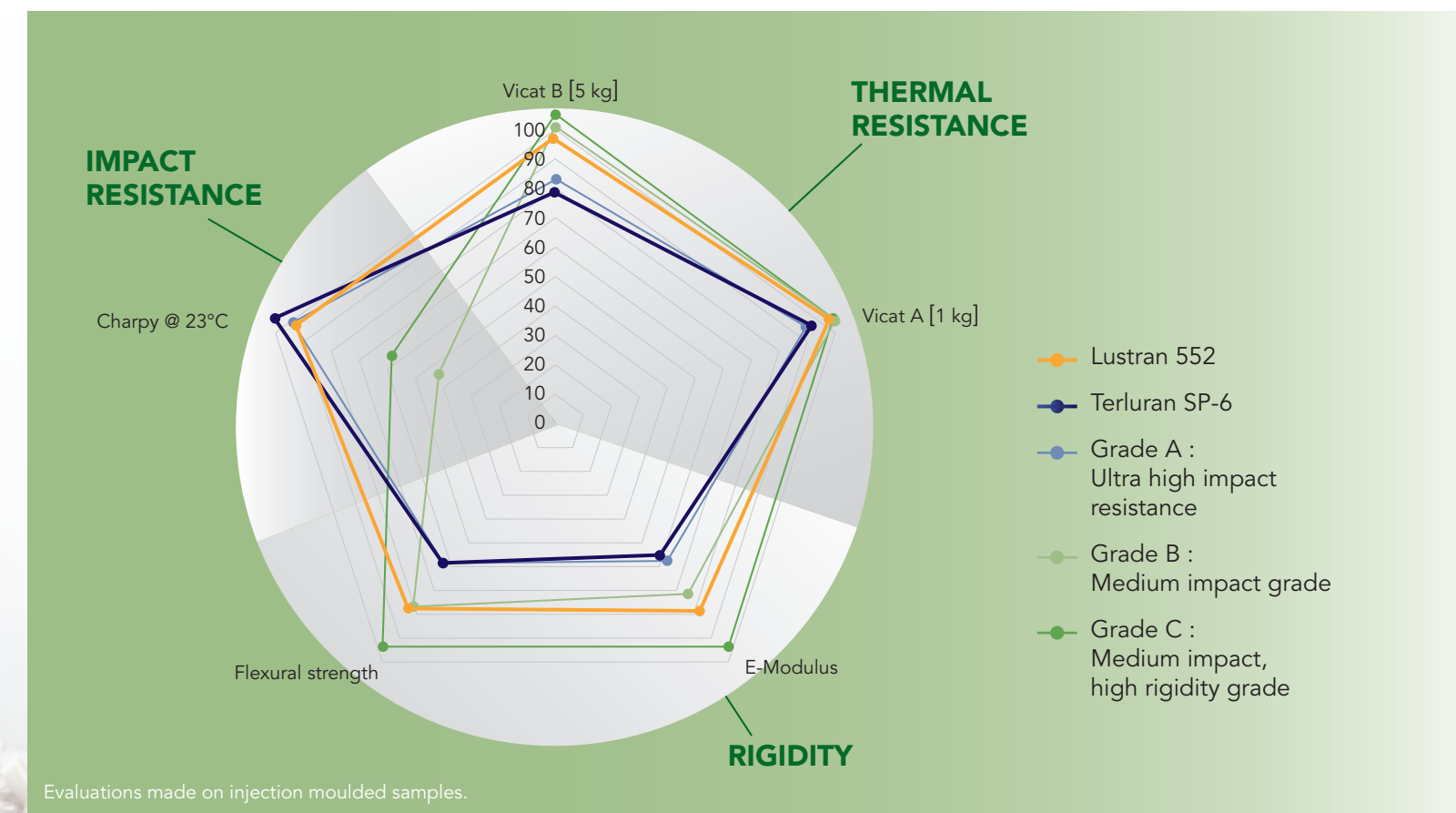
In order to realise specific colours, customers can add colour batches (liquid or solid) to achieve the final colour by self-colouring. The further addition of titanium dioxide and UV stabilisation is usually not needed. Thus the customer can save costs by lower colour batch consumption and avoid costs for UV stabilisation in colour batches. Terluran GP-35 White is efficiently stabilised versus UV exposure at least until 500h of ISO 4892-2B.

MASS TECHNOLOGY STANDARD ABS

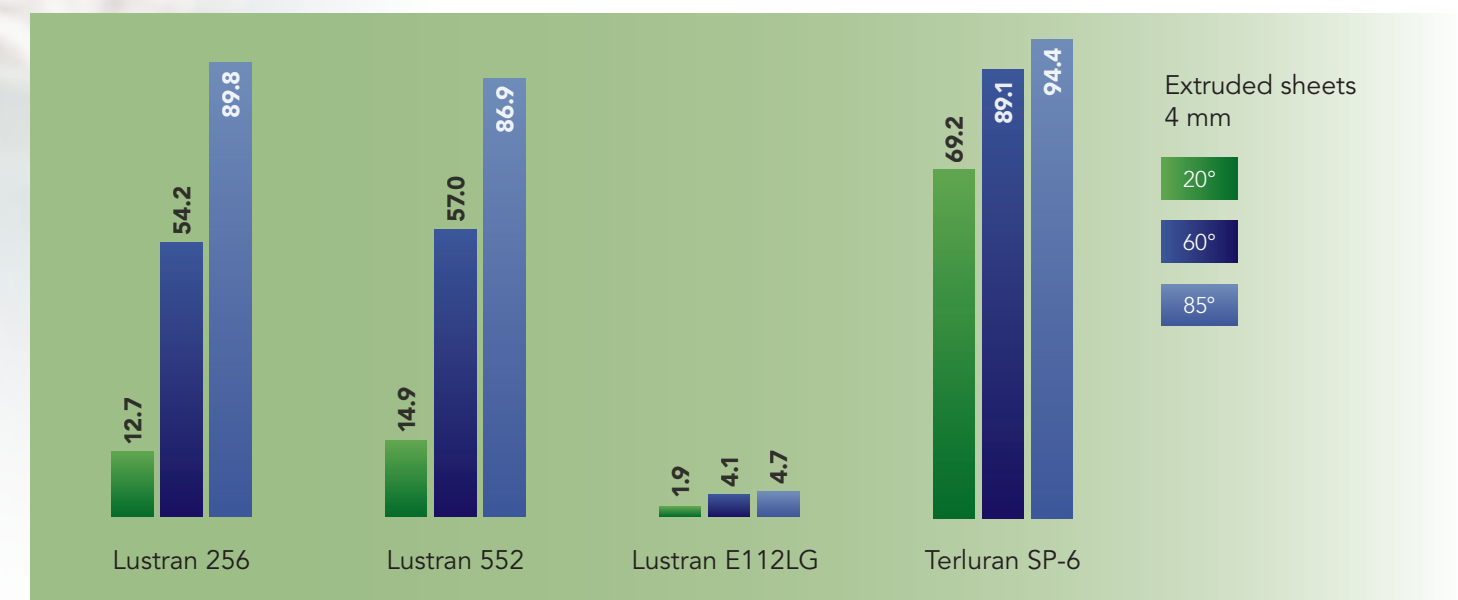
Lustran is INEOS Styrolution's brand of ABS copolymers produced with mass technology. The product line contains grades with a well-balanced mix of properties mainly for extrusion. These products fulfill the requirements of many industry segments including sheet extrusion, automotive, healthcare, household, electronics and construction.



EVALUATION OF LUSTRAN 552 AND TERLURAN SP-6 IN COMPARISON WITH EUROPEAN COMPETITIVE EXTRUSION MASS ABS GRADES



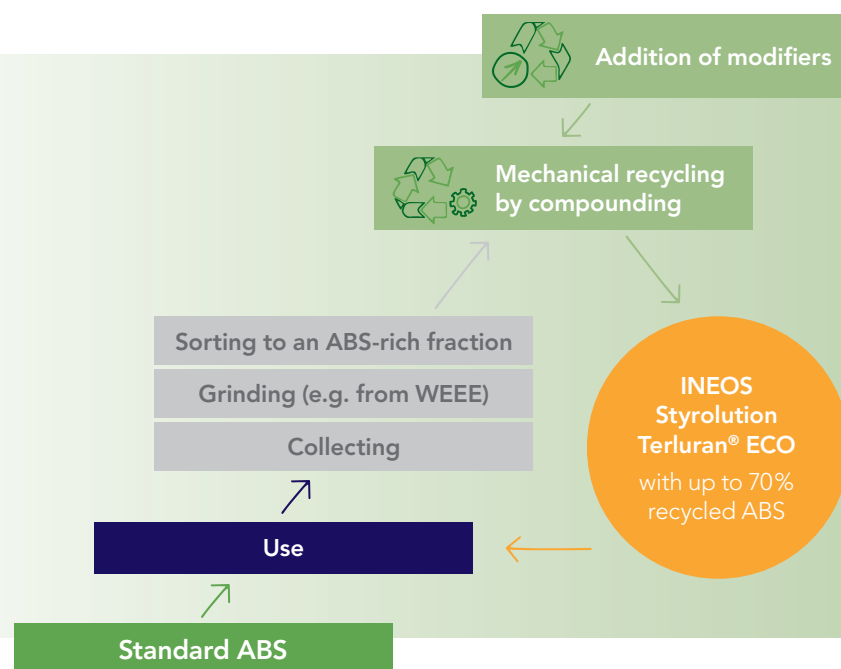
GLOSS OF LUSTRAN GRADES IN COMPARISON WITH TERLURAN SP-6



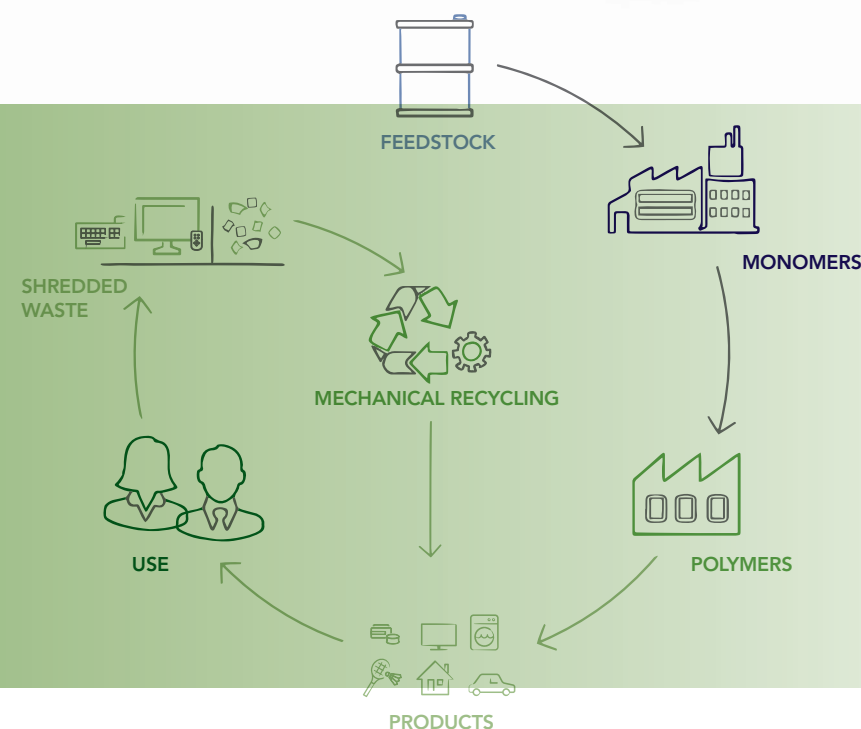
MECHANICALLY RECYCLED DROP-IN SOLUTIONS

Terluran ECO is one pillar of INEOS Styrolution's contribution to sustainability and a truly circular economy. Terluran ECO based on mechanical recycling uses cleaned waste from post-consumer recycled material from which contaminants are removed. The material is reduced in size (shredded), washed, sorted, re-compounded and pelletised.

Thanks to INEOS Styrolution's experience, technology and capabilities, ABS from mechanical recycling can be offered in a truly outstanding quality, matching the properties and performance of standard-based ABS: No "downcycling"!



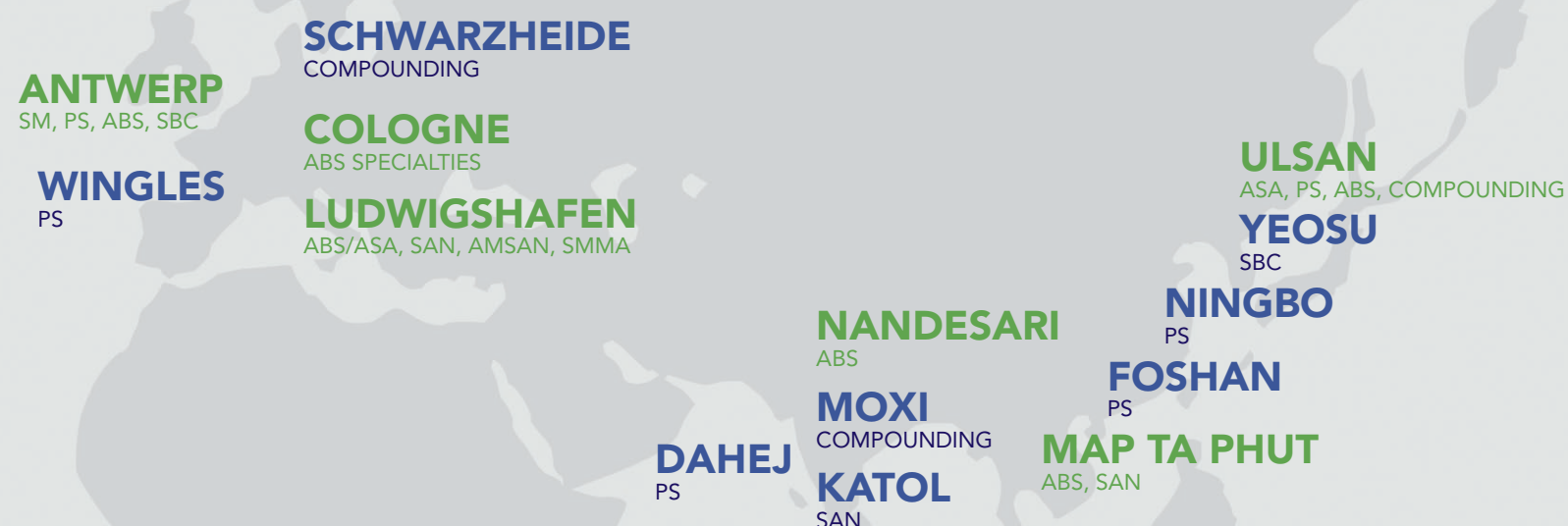
Strong impact strength, melt flow, stiffness and heat resistance, recyclate shares of up to 70% without significantly sacrificing product properties. Results show product performance in the range of conventional Terluran GP-22, which offers a drop-in solution for a broad range of applications for prime surface finish in visible parts. Colours are limited to grey and black for the time-being.



SM: styrene monomer
PS: polystyrene
ABS: acrylonitrile butadiene styrene
Specialties: ABS/ASA, ASA, SAN, AMSAN, SBC, SMMA

GLOBAL REACH

AND PROXIMITY TO CUSTOMER MARKETS



Green colour showing the relevant ABS sites.

⁽¹⁾ INEOS Styrolution acts as exclusive distributor for the INEOS ABS plant in Addyston, Ohio.

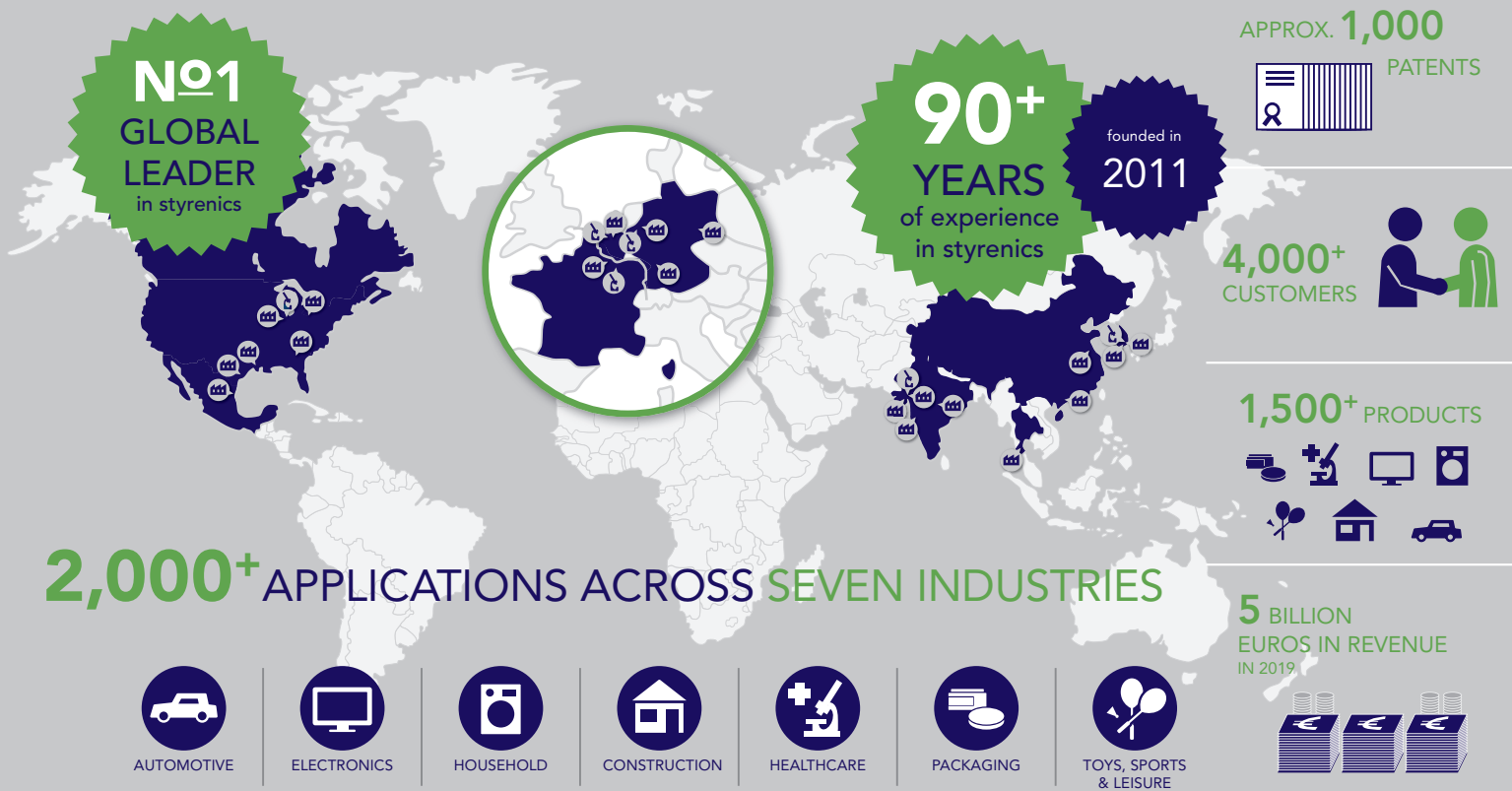
⁽²⁾ New plant – expected to be operational by 2021.

INEOS Styrolution is the only global company focused solely on styrenics with a broad product portfolio and proven customised approach to co-development. INEOS Styrolution delivers innovation and professional support with an experienced, personal touch.

INEOS STYROLUTION AT A GLANCE

INEOS Styrolution is the global leader in styrenics. The company helps its customers succeed by offering innovative and sustainable best-in-class solutions, designed to give them a competitive edge in their markets, and at the same time, help make the circular economy for styrenics a reality. INEOS Styrolution provides styrenic applications for many everyday products across a broad range of industries, including automotive, electronics, household, construction, healthcare, packaging and toys/sports/leisure.

 **3,600** EMPLOYEES |  **10** COUNTRIES | **20**  PRODUCTION SITES |  **6** R&D CENTERS |  **24** sales offices



LET'S COLLABORATE

If you would like further details, need assistance in creating your applications, or are curious to explore new possibilities with styrenics, please contact us!

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