PoliMarky®
since 1984

Fundusze Europejskie Polska Wschodnia

Rzeczpospolita Polska

PARP Grupa PFR

Unia Europejska
Europejski Fundusz Rozwoju Regionalnego

smart compounding®

A Polimarky headquarters Rzeszow

B Polimarky branch Zaczernie

POLIMARKY is a Polish family-owned company which has been on the market for over 36 years.

From the very beginning, the company has focused on high-tech solutions for modified compounds for extrusion and injection moulding.

It is also a manufacturer of installation systems for the construction of internal water supply, high-temperature heating and surface heating systems in single- and multi-family buildings or industrial facilities.

One of the pillars defining the directions of development and research is the idea of "smart compounding", which makes it possible to supply the market with products of high, stable quality.

Polimarky is the owner of 3 patents, numerous process innovations and over 4,000 proprietary recipes for the modification of compounds.

Polimarky is the perfect choice for those thermoplastic processors looking for one-stop shop partners.

TAILOR-MADE MATERIALS

In today's industry, the role of the materials used is extremely important. They determine the appearance, physico-mechanical and chemical properties, weight and recycling capabilities of the designed product.

We offer a wide range of modified products tailored to individual customer needs, in line with market requirements.

Plastics are modified by means of:

- glass fibre and glass bead reinforcement
- compositions with impact modifiers
- stabilisers to increase the material's resistance to: temperature, UV radiation, water, addition of halogen-free flame retardants and halogen derivatives
- PTFE additives, molybdenum disulphide
- tinting with high colour repeatability — tinted to the customer's standard as well as colour marking systems such as RAL, PANTONE, NCS
- obtaining a material modified in various directions of physico-mechanical properties, obtained by co-compounding various types of additives and modifiers, e.g. GF + GB; GF + HI; GF + VO, GF + M

RESEARCH AND DEVELOPMENT

Thanks to our own Research and Development Department, new products are created and further development directions are set. Despite its well-established position on the market, the company is constantly taking on the challenge of enriching its portfolio with new products.

The Research and Development Department has well-equipped laboratories to enable rapid verification of the results achieved, as well as access to production lines that allow the realisation of projects on a prototype and technical scale within industries such as

- white goods
- automotive
- construction
- E&E
- furniture production

The company has patented technologies in the areas of: compounding - halogen-free cable compounds with ceramizing properties, installation systems for flame retardant multilayer composite pipes, ecological products based on recycled materials.

PRODUCT OFFER

- modified engineering compounds
- modified compounds commonly used
- halogen-free cable compounds
- products based on recycled raw materials
- toll compounding
- laboratory services

MODIFIED ENGINEERING COMPOUNDS

The company's modern production technology and the in-house Research and Development department make it possible to introduce products of stable and high quality, produced by compounding from a wide range of thermoplastic polymers.

In the group modified compounds we can find:

RESTRAMID B i RESTRAMID A	based on the following polymer bases PA6 (type B) and PA6.6 (type A)
RESTREN ABS	based on ABS
RESCARB PC	based on PC
RESFORM POM	based on POM
RESBLEND (PC, ABS, PP, PA)	a group of products based on different types of base polymers
RESARON	a composition based on PA6.6 and PPA

MODIFIED ENGINEERING COMPOUNDS

		RESTRAMID B27 GF 15	RESTRAMID B27 GF 30	RESTRAMID B27 GF 50	RESTRAMID A27 GF 15	RESTRAMID A27 GF 30	RESTRAMID A27 GF 50	RESARON HA GF 30	RESARON HA GF 50
Tensile modulus	d.a.m	5800	9600	17000	6400	10000	16500	9000	19000
[MPa] / ISO 527-1/2	cond.	3300	5500	10300	3700	7100	12500	10000	16000
Stress at break	d.a.m	120	185	230	140	200	250	205	250
[MPa] / ISO 527-1/2	cond.	75	110	145	80	130	180	150	210
Charpy notched impact strength	d.a.m	7	13	20	7	12	19	13	16
[kJ/m^2] / ISO 179 /1eA	cond.	11	18	26	8	16	21	15	19
Deflection temperature under load HDT/A 1,8 MPa/ ISO 75-2		205	215	220	245	182	260	230	240
Density [g/cm^3] / ISO 1183		1,23	1,36	1,56	1,24	1,36	1,57	1,37	1,57
Filler content [%] / ISO 3451		15	30	50	15	30	50	30	50

	RESTREN ABS	RESTREN ABS V0	RESCARB PC	RESAN SAN	RESFORM POM	RESBLEND 1 ABS + PC	RESBLEND 2 PA + ABS	RESBLEND 4 PP + PA
Tensile modulus [MPa] / ISO 527-1/2	2300	2100	2400	3200	2600	2000-2500	2100-2300	2500-3300
Tensile strength [MPa] / ISO 527-1/2	40	36	60	65	60	45-55	42-56	39-42
Charpy notched impact strength [kJ/m^2] / ISO 179 /1eA	20	18	20	5	5	15-20	7-10	3,5-5,5
Deflection temperature under load HDT/A 1,8 MPa/ ISO 75-2	95	74	123	73	110	-	-	-
Density [g/cm^3] / ISO 1183	1,04	1,04	1,17	1,21	1,05	1,44	1,07-1,18	1,09-1,11
Filler content [%] / ISO 3451	-	-	-	-	-	-	-	-
Flame retardant according to UL 94		V0						

Name nomenclature: product name; A27 – PA6.6; B27 – PA6; GF – glass fiber, T – talc, K – chalk and% fillers.

All information regarding the physical properties of our products has been provided to the best of our knowledge.

MODIFIED COMPOUNDS COMMONLY USED

RESLEN FAMILY are modified homo and copolymer polypropylenes and polyethylenes, which are characterised by a wide range of physical and chemical properties. Modification of polymer resins is carried out according to the requirements of the white goods, automotive, construction, electrical installation industries and furniture.

MODIFIED COMPOUNDS COMMONLY USED

	RESLEN PPH GF 15	RESLEN PPH GF 30	RESLEN PPH GF 50	RESLEN PPH T 15	RESLEN PPH T 30	RESLEN PPH T 40	RESLEN PPH K 40	RESLEN PPX GF 30	RESLEN PPX GF 40
Tensile modulus [MPa]/ ISO 527-1/2	3700	6200	9500	1650	2800	2600	2300	8500	9000
Tensile strength [MPa] / ISO 527-1/2	60	90	110	28	26	30	21	98	110
Charpy notched impact strength [kJ/m^2] / ISO 179 /1eA	7	8	10	3	3	3	25	11	12
Deflection temperature under load HDT/A 1,8 [MPa] / ISO 75-2	120	140	145	52	65	75	75	150	155
Density [g/cm^3] / ISO 1183	1,0	1,12	1,32	1,01	1,14	1,24	1,24	1,12	1,22

Name nomenclature: product name; GF – glass fiber, T – talc, K – chalk and% fillers.

All information regarding the physical properties of our products has been provided to the best of our knowledge.

HALOGEN-FREE CABLE MIXES

The launch of the production of halogen-free cable compounds based on polyolefins more than 10 years ago was Polimarky's response to the expectations of the cable industry regarding new coating and insulation materials for cables meeting the requirements of the CPR Directive in terms of fire safety. RESLEN REF cable mixtures are self-extinguishing due to the use of mineral fire retardants that decompose at elevated temperatures with the release of water, in addition, in comparison to PVC, they are characterised by low smoke emission and the absence of toxic and corrosive decomposition products under fire conditions, as well as significant reduction or complete elimination of falling burning drops that significantly impede the evacuation of people and property from fire hazard zones.
Characteristics of RESLEN REF blends are :

1. Depending on the formulation, meeting CPR flammability classes D to B, while maintaining low smoke density for good air transparency in fire conditions,
2. Good resistance to ozone and low temperatures (down to -40°C),
3. Process versatility — possibility of extrusion on lines dedicated to halogen-free plastics, as well as on lines for PVC,
4. Formulation versatility — possibility of using the same material for both the sheath and the cable insulation (combination of UV stabilisation and metal deactivators in one formulation),
5. The use of anti-die drool additives (which reduce the formation of "build-ups" on the die during extrusion),
6. Universal application — power cables, copper and fibre optic telecommunications cables.

Currently, Polimarky owns more than 50 original formulations of plastics dedicated to sheathing and insulation of cables up to 1 kV, not spreading flame. Our range includes the following types of compounds for basic cable applications::
- Hm4 acc. to DIN VDE 0276-604
- HM2 acc. to DIN VDE 0250-214
- LTS1, LTS2, LTS3, LTS4 acc. to BS 7655
- TI6, TI7, TM acc. to PN-EN 50363
- SHF1 acc. to IEC 60092-360

Possible modifications: UV stabilisation, addition of metal deactivators, dyeing in the mass. By using our R&D potential (including a cable prototyping line) and responding to our customers' needs, we continuously create new compositions, enriching our portfolio with, among others, products with increased flexibility, resistant to low and high temperatures and chemical agents, increased fire resistance — ceramising mixtures for fire-resistant cable sheaths, or halogen-free flame retardant filler mixtures.

Parameter	Scope	Unit	Research method
Physical and mechanical properties			
Density	1,42-1,56	g/cm^3	ISO 1183
ShD hardness	42-52	°	ISO 868
LOI	33-45	%	ISO 4589
Tensile strength before ageing, min.	9-12	MPa	PN-EN 60811-501
Elongation at break before ageing, min.	165-250	%	PN-EN 60811-501
Resistance to high and low temperatures			
Strength after ageing in air (110°C/168h) [MPa]	min 9	MPa	PN-EN 60811-501 PN-EN 60811-401
Change in strength after air ageing (110°C/168h) [%]	max -30	%	PN-EN 60811-501 PN-EN 60811-401
Elongation at break after air ageing (110°C/168h) [%]	min 100	%	PN-EN 60811-501 PN-EN 60811-401
Change in elongation at break after air ageing (110°C/168h) [%]	max ± 40	%	PN-EN 60811-501 PN-EN 60811-401
Pressure resistance, 90°C/4,6h, indentation depth	max 50	%	PN-EN 60811-508
Low temperature winding resistance (-15°C)	no cracks		PN-EN 60811-504
Elongation at break at low temperature (-15°C)	min 30	%	PN-EN 60811-501 PN-EN 60811-505
Low temperature impact resistance (-15 °C)	no cracks		PN-EN 60811-506
Resistance to external factors			
Change in strength after ageing in water (70°C/168h)	max ± 30	%	PN-EN 60811-501 BS 6469
Change in elongation at break after ageing in water (70°C/168h)	max ± 30	%	PN-EN 60811-501 BS 6469
Change in strength after ageing in IRM902 oil (70°C/4h)	max ± 30	%	PN-EN 60811-501 PN-EN 60811-404
Change in elongation at break after ageing in IRM902 oil (70°C/4h)	max ± 30	%	PN-EN 60811-501 PN-EN 60811-404
Ozone resistance	no cracks		PN-EN 50396, metod B
Electrical properties			
Surface resistance, 20°C	min 10^9	Ω	PN-EN 62631-3-2
Reaction to fire — designation of halogens			
pH	min 4,3		PN-EN 60754-2
Conductivity	max 10	µS/mm	PN-EN 60754-2
Quantity of halogen acid gas	max 0,5	%	PN-EN 60754-1
Reaction to fire — density of smoke produced			
Light transmittance	min 70	%	PN-EN 61034-2

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PRODUCTS BASED ON RECYCLED RAW MATERIALS

In line with the direction of development, the company offers a group of products containing recycled raw materials. The company's offer includes regranulates, the properties of which depend on the customer's requirements.

The company's core plastics fit perfectly into the circular economy, making optimal use of waste by treating it as secondary raw materials and reusing it.

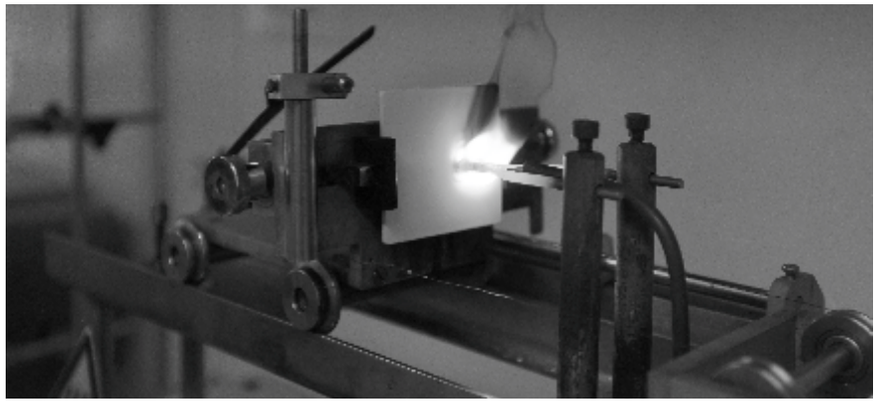
TOLL COMPOUNDING

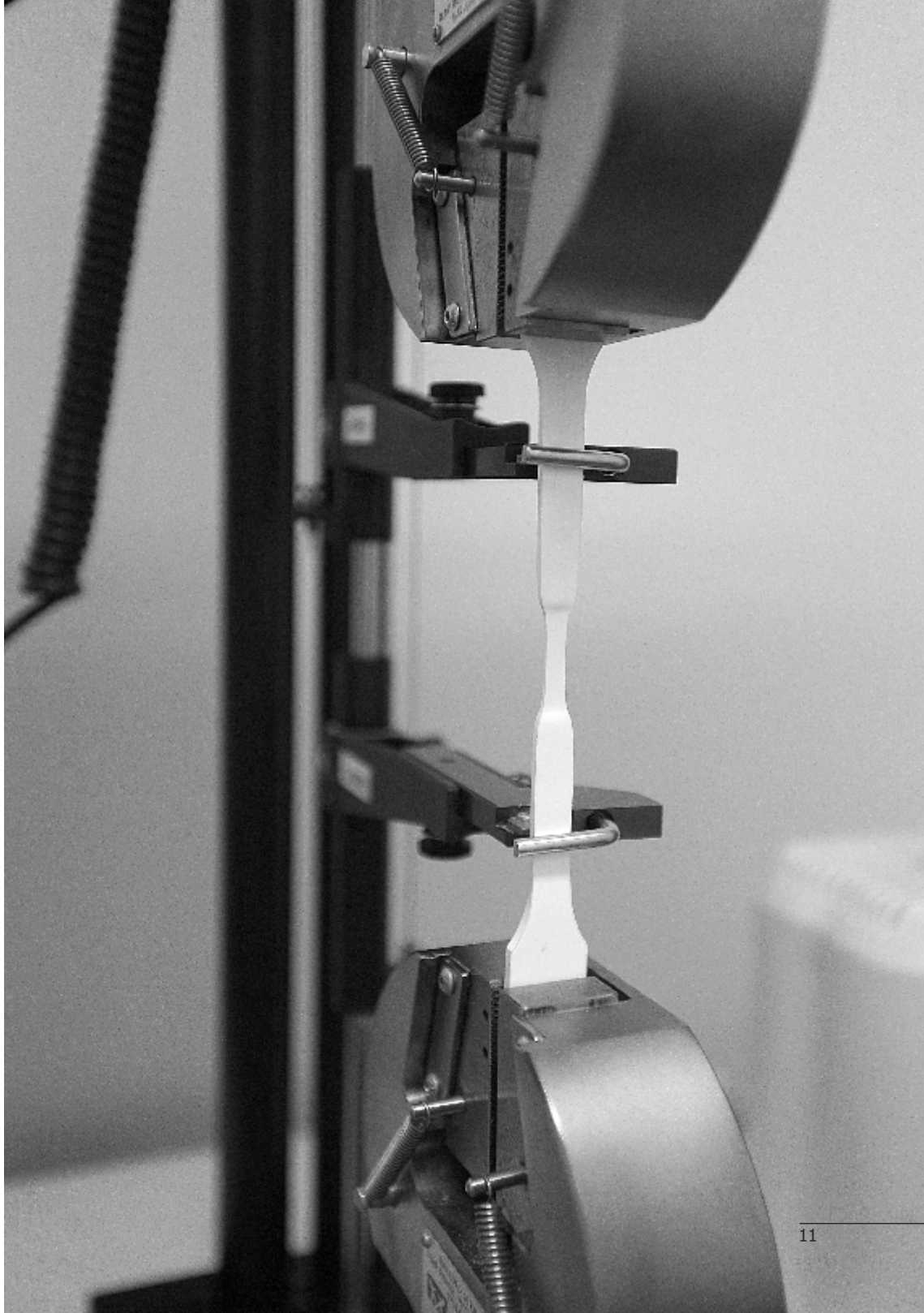
We offer services in the field of extrusion on twin-screw extruders, co-rotating extruders with the possibility of filling (talc, chalk, barium sulphate, wolastonite), reinforcement (with glass balls, glass fibre), colouring and other customer-based modifications of thermoplastic polymers. The products offered are available in the following packaging types: big bags, octabins, and 25 kg bags, deliveries in silos.

LABORATORY SERVICES

The company also has well-equipped laboratories. As part of them, we offer product research services in the field of:

- tensile strength tests according to ISO 527
- bending strength tests according to ISO 178
- Charpy impact tests according to ISO 179 and Izod according to ISO 180 at 23 ° C flammability class tests according to:
  - UL-94; according to ISO 60695-11;
  - GWIT, GWFI according to ISO 60695-2
  - LOI according to ISO 4589-1.2
- determination of the mass and volume melt flow rate (MFR and MVR) according to ISO 1133color tests on details in the CIE L * a * b / D65 scale
- thermal tests:
- HDT 0.45MPa / 1.8MPa
  - in accordance with ISO 75-1;
  - Vicat according to ISO 306,
  - DSC according to ISO 11357-1,
- density determination according to ISO 1183
- determination of the moisture content of plastics (120 ° C / 10 min)
- determination of Shore hardness in accordance with ISO 868 determination of filler content in accordance with ISO 3451





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