



PERSPECTIVES IN PLASTICS

Welcome to the
world of plastics
of PiO

Let's achieve
things together!



WE WOULD LIKE TO BE A RELIABLE PARTNER FOR OUR CUSTOMERS

PiO is specialized in delivery and processing of thermoplastics for middle- and small-sized companies working in the plastic processing industry.

As a distribution partner of Sabic® Germany we are able to deliver a wide range of quality proofed PP granules from our stock on short call. This applies also for small quantities. Our sales area covers South-Germany, Switzerland, Austria and additional countries within Europe.

We work out practical solutions in close contact with our customers for permanently changing requirements. Customers benefit from the know-how and technical equipment of PiO which make it possible to offer highest quality standards at optimal cost-performance ratio.

We see us in the first instance as service provider. Therefore it is important for us to advise our customers professionally, work out customized solutions, guarantee constant quality thanks to strict testing standards, realize fast and punctual delivery and being available as a contact person for you at any time.

Only thus we can make you sure that you are in good hands with PiO.



Same prospects for everyone

A STRONG PARTNER FOR YOU

As a strong distribution partner of SABIC® we protect the interests of our customers

80% of the plastics produced in Germany are delivered to the big plastic processing companies. The other 20% are divided by small- and middle-sized companies. The trend to a concentration of major customers grows further with the suppliers of polymer.

Do the small- and middle-sized companies still have a chance under these circumstances? **With PiO (as partner) - you have.** Because as a distribution partner of Sabic® in the field of PP and PE we have a strong position what concerns the interests of our customers.

We deliver in the first instance to middle- and small-sized plastic processors in the fields of packaging, automotive, household goods, leisure and E&E.

Thus we protect the equality of opportunities. PiO has an efficient logistic system which allows delivering customized plastics also in small quantities all over Europe on time.



Different products require individual solutions

Today, there are different requirements regarding material property of plastic products. Therefore we offer next to our wide range of high quality commodity plastics also the Piolen® range. By corresponding upgrading at PiO Piolen® fulfills all requirements to material.

We have a high yearly capacity of 8.000 tons, distributed to four production lines.

Your advantage: You have with PiO a strong partner, who not only delivers a wide range of products from stock, but who is also, thanks to own production facilities, able to upgrade plastics in a way that their physical specification corresponds exactly to your requirements.

PiO distribution program

SABIC® PP

polypropylene (PP) for injection moulding and extrusion
high crystallinity polyolefin (HCPO)
for injection moulding

SABIC® PPcompound

polypropylene compound for injection moulding and extrusion

SABIC® PE

for injection moulding and extrusion

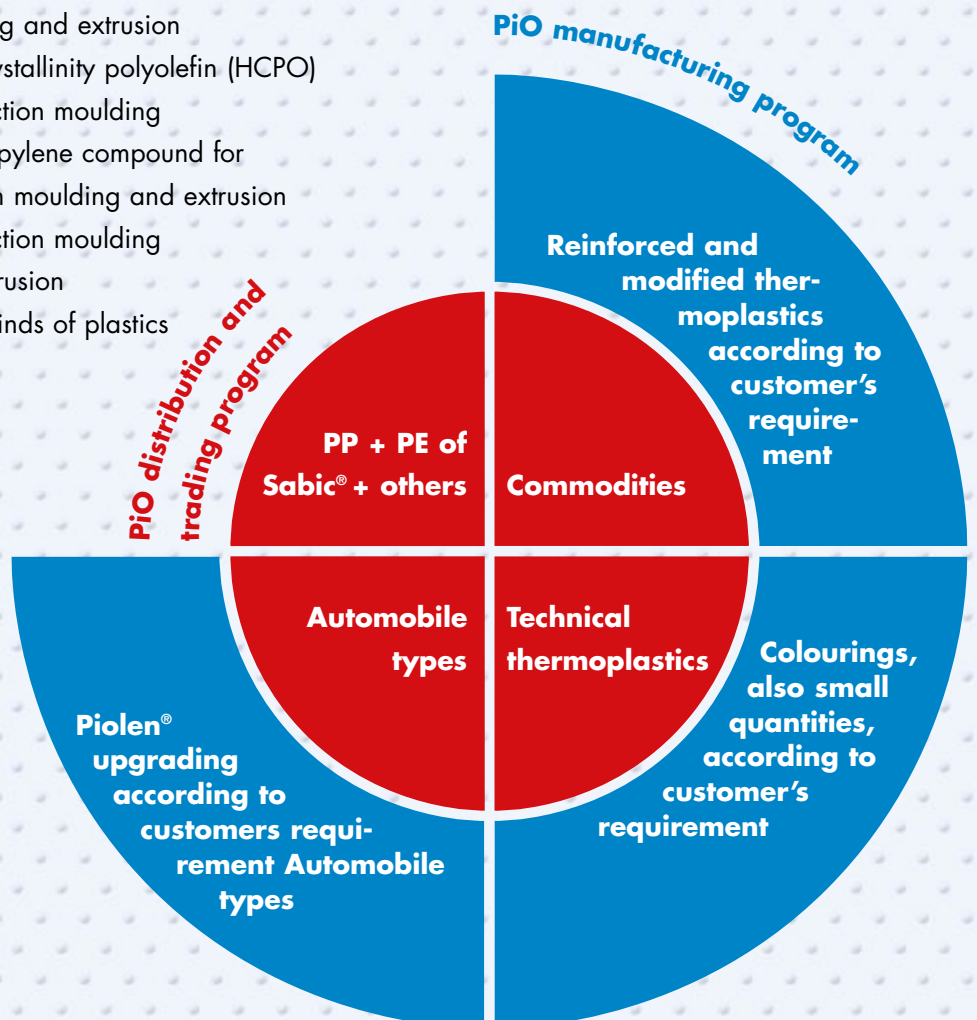
PiO trading portfolio

for all kinds of plastics

PiO manufacturing program

Piolen® P, Piolen® PS, Piolen® PE

- with talcum
- with glass fibre/glass beads
- with barium sulfate
- flame retardant
- coloured



Thermoplastics – one and the same?

PIOLEN® COMPOUND – THE RIGHT COMPOSITION MAKES THE DIFFERENCE!

Although many plastics are two of a kind, at first glance, very different characteristics in material can be reached by appropriate additives.

PiO is specialist for the right composition. With modern production lines we produce e. g. on the basis of SABIC® grades compounds according to approved formulations for the different applications.

Thereby we can guarantee constant product quality. We produce plastics with glass fibre, glass beads and talcum for reinforcement, with barium sulfate for acoustic insulation, as well as other additives for base reinforcement, for flame retardant or antistatic behavior. You have the choice between more than 100 different Piolen® types.

But this is not all! We conjure fresh colours into grey plastics. No matter if mint green, pastel green or moss green – we compound your colour with smallest tolerances also in small quantities.

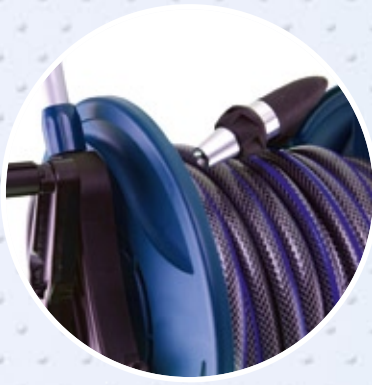
Furthermore we do material modifications of any kind with many popular thermoplastics.



Piolen® P - Examples of our product portfolio. For more informations please get in contact to info@pio-kunststoffe.de



properties	unit	test method	Piolen® P T20A37	Piolen® P T20ZH42
basic material			PP-Copo	PP-Copo
colour			uncoloured OP900	uncoloured OP900
filler	%		20% talc	20% talc
density	g/cm ³	ISO 1183	1,04	1,04
melt flow rate	g/10min	ISO 1133	13	0,5
	°C/kg	230/2,16	-	-
stress at yield	MPa	ISO 527	23	25
stress at break	MPa	ISO 527	-	-
stress at 100% elongation	MPa	ISO 527	-	-
strain at break	%	ISO 527	45	135
tear strength	kN/m	ISO 527	-	-
flexural modulus	MPa	ISO 178	2200	2200
charpy impact unnotched at 23°C	kJ/m ²	ISO 179/1eU	N	50
charpy impact unnotched at -40°C	kJ/m ²	ISO 179/1eU	28	38
charpy impact notched at 23°C	kJ/m ²	ISO 179/1eA	4,5	34
charpy impact notched at -40°C	kJ/m ²	ISO 179/1eA	2,3	3
shore hardness		ISO 815	-	-
compression set	%	23°C/22h	-	-
melting point	°C	DSC	160-170	162-167
vicat softening temperature A 10 N	°C	ISO 306	146	164
vicat softening temperature B 50 N	°C	ISO 306	77	91
flame retardant acc.			UL94/HB	UL94/HB
processing			· injection moulding	· extrusion
properties			· excellent impact strength · high flowability	· high impact strength · additional heat stabilization · antistatic package
examples			· housings · crates and boxes · back of chairs	· window frames · door frames · tank trim



Piolen® Plus P T20A38E	Piolen® Plus P T25H42	Piolen® Plus P T30H41	Piolen® P T40A37	Piolen® P G20CA67	Piolen® P X7010
PP-Copo uncoloured/black/colours* 20% talc	PP-Copo uncoloured/black/colours* 25% talc	PP-Copo uncoloured/black/colours* 30% talc	PP-Copo uncoloured OP900 40% talc	PP-Copo uncoloured OP900 20% GF, chem. bounded	PP-Homo black 67195 30% GF, chem. bounded
1,05	1,1	1,14	1,25	1,04	1,12
11	0,3	0,4	15	8,5	5
-	-	-	-	-	-
26	25	30	23	54	-
-	-	-	-	-	90
-	-	-	-	-	-
15	75	>50	6	5,5	4,2
-	-	-	-	-	-
3000	3300	4100	3700	3480	6100
40	N	N	19	45	45
15	34	32	11	48	45
4,5	30	32	2,6	16	10
2,3	2,9	3	1,3	11	7,5
-	-	-	-	-	-
-	-	-	-	-	-
162-170	162-170	162-170	160-170	160-170	164-168
150	151	157	149	160	160
80	77	90	80	98	135
UL94/HB	UL94/HB	UL94/HB	UL94/HB	UL94/HB	UL94/HB
· injection moulding	· extrusion	· extrusion	· injection moulding	· injection moulding	· injection moulding
· excellent stiffness	· excellent stiffness	· excellent stiffness	· high impact strength	· very good impact strength	· very good toughness
· very high strength	· very high strength	· very high strength	· high flowability	· high flowability	· good thermal stability
· good toughness	· good toughness	· good toughness	· excellent stiffness	· stiffness	· low creep
· low warpage	· low warpage	· low warpage			
· reduced cooling time	· reduced cooling time	· reduced cooling time			
· emission- and smell optimized					
· automotive applications	· technical profiles	· technical profiles	· housings	· seat shell	· under bonnet
· indoor	· hard/soft TPE + TPV	· hard/soft TPE + TPV	· garden furniture	· under bonnet	· seat shell



Piolen® Plus P X7012	Piolen® Plus P G40CH63	Piolen® Flex P A70M6V	Piolen® Flex P D40M2V	Piolen® PE T30A103
PP-Homo uncoloured/black/colours* 30% GF, chem. bounded	PP-Copo uncoloured/black/colours* 40% GF, chem. bounded	TPV (cross-linked) uncoloured/black/colours*	TPV (cross-linked) uncoloured/black/colours*	PE-HD uncoloured OP900 30% talc
1,18	1,29	0,93	0,95	1,12
4	2,6	-	-	0,3
-	-	-	-	190/2,16
105	120	6,3	18	27
-	-	-	-	46
-	-	3,5	10	-
5,5	4	600	600	32
-	-	14,5	32,5	-
7600	10500	-	-	2100
50	50	-	-	50
50	50	-	-	50
10	12	-	-	19
10	12	-	-	6
-	-	A70	D40	
-	-	36	35	
162-170	162-170	-	-	124-137
-	-	-	-	-
-	-	-	-	-
UL94/HB	UL94/HB	UL94/HB	UL94/HB	UL94/HB
· injection moulding	· injection moulding	· injection moulding	· injection moulding	· extrusion
· excellent stiffness	· excellent stiffness	· rubber like	· rubber like	· high impact strength
· very high strength	· very high strength	· thermoplastic manufacturing	· thermoplastic manufacturing	· good price performance
· very good toughness	· very good toughness	· kindly soft-touch	· kindly soft-touch	
· high heat distortion temperature	· high heat distortion temperature	· matt finish	· matt finish	
		· bright colours	· bright colours	
· automotive applications	· automotive applications	· sport and leisure	· sport and leisure	· thermoforming
· under the hood	· under the hood	· toys	· toys	· building industry
· high mechanical strength	· high mechanical strength	· food use possible	· food use possible	

*tailor made colours are possible



Piolen® - there you know what you have

The quality assurance of PiO sets standards. In our technical laboratory we develop compound granules, which exactly correspond to your standards. For testing the material specifications we inject samples, which are tested in our laboratory according to different criteria. Thus we do mechanic and thermo analytic examinations, we measure the filling content and check the flow characteristic and colour matching.

All testings are done with the latest machines and test methods.

Only granules, which pass all relevant tests faultlessly, will leave our house.

To guarantee the quality standard for all products produced in our house we are not only satisfied with analysing individual samples, but we are also checking every single pallet.

Only then the PiO granules obtain the certificate of compliance according DIN EN 10204-3.1.

DIN-EN 10.204-3.1

PiO doesn't leave you out in the rain

We know that discerning customers expect, besides quality and punctuality, also support in application technology of their supplier.

We are prepared to this, as our application engineers are real professionals. They analyze with you the wishes and problems you have and work out the optimal technical solutions at a cost-performance ratio which will convince you. They are supported by the long experienced specialists of our technical department and test laboratory.

As producer of compounds we are able to deliver you at short notice small sample quantities of the required granule.

And if the right material mix has been developed for you we will archive a sample of it so that we can service you optimally at any time.

WHEN WOULD YOU LIKE TO RECEIVE DELIVERY?

The time factor is often deciding

Ordered today, delivered tomorrow - just in time is a big challenge and a basic requirement for flexible and cost-optimized manufacturing.

We conform to this requirement by stocking and having available adequate quantities of standard materials in modern high bay rackings.

Our central stock-keeping in Freiburg for the south of Germany and in Kassel for the north of Germany in connection with sophisticated logistic system cooperation with efficient forwarding agencies ensure deliveries all over Europe on time.

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