

Open Loop Compounds

Sustainable, economical, high-quality

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WIPAG Open Loop Compounds are high-quality recycled products with an attractive price-performance ratio.

WIPAG uses post-consumer and post-industrial materials to create one-of-a-kind recycled compounds for use in a wide variety of applications. Our proprietary, patented, economically efficient recycling method allows us to process thermoplastic waste into exceptionally high-quality materials. This is possible thanks to our special technologies for composite separation, paint removal, and selective separation (density, optical and electrostatic separation, demetallization).

WIPAG Open Loop products make it possible to reduce or, in some cases, completely eliminate the use of new materials. This leads to cost savings on raw materials procurement. Along with lowering raw materials costs, the result is a reduction in the carbon footprint.

As such, our compounds make an excellent sustainable material solution. Even today, our products are already being used successfully in the automotive industry, which is known for having very high standards of quality. They are being used in other industries as well.

Our standard products currently include compounds based on PP, PP/EPDM, PA66, PA6, ABS and PC/ABS. Application-specific solutions based on other polymers or filler combinations can be developed as well. Our materials are already being used in:

- **WIPAFLEX PP/PE/EPDM**
wheel arch liners
- **WIPAFLEX PP/PE/EPDM**
drain gutters
- **WIPELAST PP/EPDM**
bumpers
- **WIPELAST PP/EPDM**
underbody cladding
- **WIPELAST PP/EPDM**
dividing walls for waste containers
- **ALTECH ECO/IQ PP various**
air flow guide elements
- **ALTECH ECO/IQ PP**
slide-in boxes
- **ALTECH ECO/IQ PA6**
front ends
- **ALTECH ECO/IQ PA66**
side mirror mounts

WIPAG Open Loop Compounds: advantages at a glance

- **Good mechanical properties**
- **Consistent quality**
- **No effect on subsequent paintability**
- **More cost-efficient than new-product compounds**
- **Sustainable material based on PCR and PIR raw materials**

Material	Product Name	CO ₂ -Footprint (GWP100) kg CO ₂ eq./ GaaBi (DIN EN ISO 14040/14044	Filler content [%]	Density [g/cm ³] ISO 1183	Tensile modulus [MPa] ISO 52731/32	Tensile strength [MPa] ISO 527-1/-2	Impact resistance 23°C [kJ/m ²] ISO 179/1eU	Charpy impact 23°C [kJ/m ²] ISO 179/1eA
PP/EPDM	WIPELAST TV10 BK	GWP 0.82	10	0.97	1,200	15	NB	40
	WIPELAST TV20 BK	GWP 0.81	20	1.04	1,700	17	105	35
	WIPELAST TV30 BK	GWP 0.79	30	1.13	2,000	17	40	11
PP/PE/ EPDM	WIPAFLEX TV5 BK	GWP 0.83	5	0.96	1,100	19	110	20
	WIPAFLEX TV10 BK	GWP 0.83	10	0.98	1,200	15	95	25
PP GF	ALTECH PP IQ 2020/ W100 BK0002	GWP 0.66	20	1.04	3,000	45	30	7
	ALTECH PP IQ 2030/ W100 BK0002	GWP 0.76	30	1.12	4,000	50	35	7
	ALTECH PP-B ECO 2030/ W100.05 BK0002	GWP 1.31	30	1.12	5,800	65	50	12
	ALTECH PP-H ECO 2030/ W100.05 BK0002)	GWP 1.31	30	1.12	6,000	70	40	9
PA6 GF	ALTECH PA6 ECO 2030/ W100 BK0002*	GWP 0.66	30	1.36	8,500	132	65	9
PA66 GF	ALTECH PA66 IQ 2030/ W100 BK0002*	GWP 0.66	30	1.37	8,000	130	50	5
	ALTECH PA66 IQ 2050/ W100 BK0002	GWP 0.84	50	1.55	12,500	140	54	7

* freshly injected

Application specific solutions based on other polymers or filler combinations can be developed.

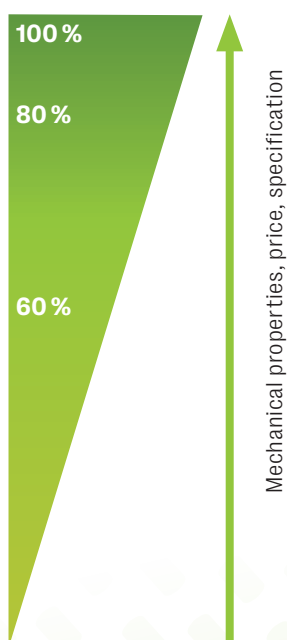
Evaluation of Open Loop Compounds

❖ Altech®

❖ Altech® ECO

Near-to-Prime®
WIPELAST
WIPAFLEX

❖ Altech® IQ



❖ Altech® ECO

Corresponds to around 80 % of the mechanical properties of new products. (Expanded-scope specification vis-à-vis IQ possible)

❖ Altech® IQ

Corresponds to around 60 % of the mechanical properties of new products. (Specification for color, filler content and humidity only)

These are guide values and not a specification. The test values mentioned are representative values only and not binding minimum or maximum figures. These test values have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. ALTECH IQ and ECO differ in the degree of specification options. Any information given on the chemical and physical characteristics of our products, including, without limitation, technical advice on applications, whether verbally, in writing or by testing the product, is given to the best of our knowledge and in good faith and does not exempt the buyer from carrying out their own investigations and tests in order to ascertain the product's specific suitability for the purpose intended. The buyer is solely responsible for confirming the suitability of the product for a particular application, its utilization and processing and must observe any applicable laws and government regulations. NO EXPRESS OR IMPLIED RECOMMENDATION OR WARRANTY IS GIVEN WITH REGARD TO THE SUITABILITY OF THE PRODUCT FOR A PARTICULAR APPLICATION, SUCH AS, BUT NOT LIMITED TO; SAFETY-CRITICAL COMPONENTS OR SYSTEMS.

Important: Irrespective of product type or designation, WIPAG does not recommend or support the use of any products it supplies which fall in the following medical, pharmaceutical or diagnostic application categories.

- risk class III applications according to EU directive 93/42/EEC
- any bodily implant applications for greater than 30 days
- any critical component in any medical device that supports or sustains human life.

At all times, our standard terms and conditions of sale apply.

Additional Information:

In general the existence of residual amounts of ferrous and non-ferrous metals cannot be completely ruled out in recycle feed stocks. In order to minimize potential negative effects of such inclusions, WIPAG employs extensive metal (and non-metal) detection and separation systems in the production of its ALTECH IQ/ECO compounds. However, even the highest product quality assurance processes cannot guarantee zero levels of ferrous and non-ferrous metal in the final product. To further reduce risk, moulders are therefore advised to deploy their own detection and separation techniques. In particular, special measures are advised to be employed with hot runner tools. For any questions or advice concerning development of parts with ALTECH IQ/ECO grades please contact our TS&AD department.