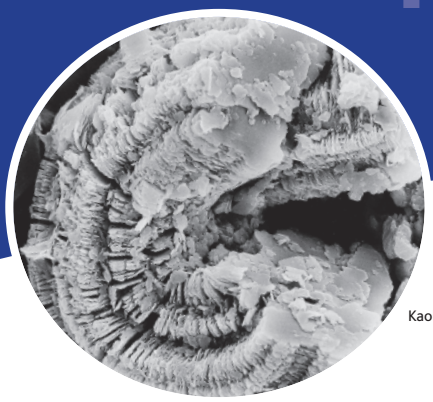
RUBBER KAOLIN

Kaolin

IMERYS
Kaolin

A WORLDWIDE INDUSTRIAL GROUP



Kaolin

IMERYS IS THE WORLD'S LARGEST PRODUCER OF WHITE INDUSTRIAL MINERALS, WITH A NETWORK OF PLANTS ACROSS SIX CONTINENTS INCLUDING MAJOR SITES IN THE UK, BELGIUM, FRANCE, ITALY, SPAIN, USA, BRAZIL, AUSTRALIA, JAPAN AND CHINA.

IMERYS supplies minerals to a wide range of industries, including polymers, RUBBER, paint, paper and ceramics. Specialist divisions serve each industry, so that our customers always deal with people who understand their business. This is supported by an absolute commitment to quality to ensure the consistency and reliability of our products and services.

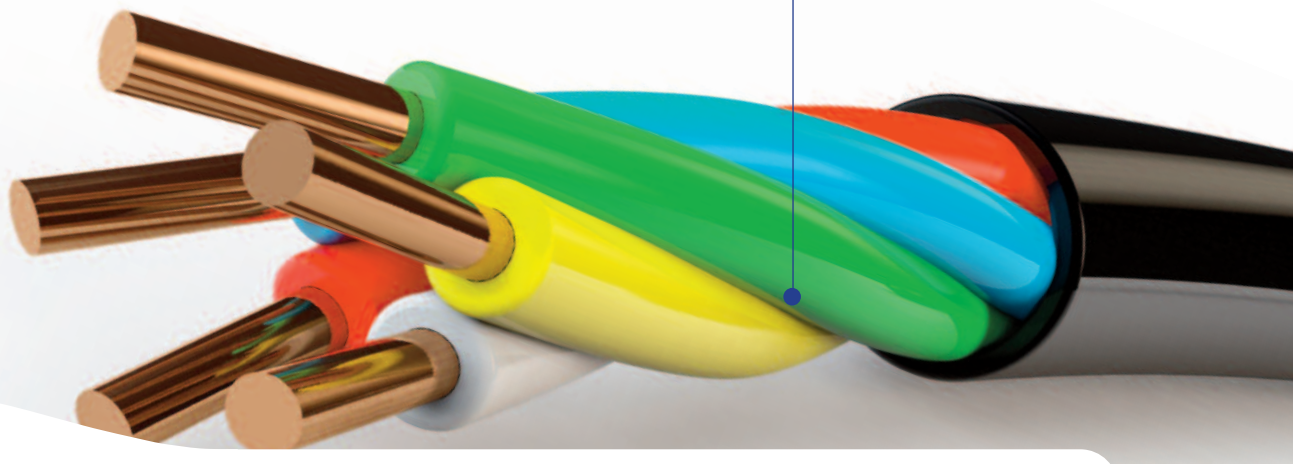
IMERYS is a major supplier of calcined kaolins, silane treated calcined kaolins, hard and soft kaolins, to the European, USA and worldwide rubber industries. Strong technical understanding of our products and their applications in rubber complements the natural value of the minerals we supply.

IMERYS investment in product and application development is a clear commitment to our customers in the rubber industry.

IMERYS has a proven history of close technical collaboration with producers, compounders and processors that has led to an in-depth understanding of the mineral requirements of the rubber industry.

- Our industry-focused team is dedicated to providing innovative commercial and technical solutions for our customers.
- Our technical personnel have an established track record in the development of products for the rubber industry and an in-depth understanding of minerals for rubber applications.
- Our European and USA product and application development laboratories are well equipped and staffed to meet the technical requests of our customers.
- In addition to a full range of analytical equipment, IMERYS laboratories contain the following rubber processing equipment. Equipment :a single screw extruder, two twin screw extruders, an injection moulder, a Banbury internal mixer, a bridge twin roll mill and a J.R.Dare hydraulic press.

RUBBER USED IN MEDICAL EQUIPMENT



HIGH QUALITY MINERAL ADDITIVES

IMERYS additives can be used in a whole range of applications in performance rubber products to improve physical properties, processing and cost of the final product.

Backed by our extensive product and application development laboratories we are able to provide guidance on how best to compound our materials into final products.

By using our technical expertise we are able to select the best suited kaolin to ensure the most cost-effective formulation is delivered.

SUPERIOR REINFORCEMENT

Many products will provide reinforcement benefits due to combinations of particle size and structure. Because the minerals we supply are naturally white this enables them to be used in pigmented and non black systems and can give complementary options to carbon black and synthetic silicas.

EXCELLENT EXTRUSION

The morphology of certain products helps in the extrusion performance of the final product, often improving the surface appearance and reducing defects such as shark skin.

COMPRESSION SET

The use of specific treated products and also principally inert materials can give improved compression set over other rubber additives. This will enable engineering products to provide performance in their final application for longer, increasing service life.

IMPROVED MECHANICAL PROPERTIES

Mineral surface chemistry, structure, particle shape and size will often give specific improvements in mechanical properties such as elongation, abrasion resistance and modulus.

IMPROVED ELECTRICAL PROPERTIES

The use of certain products with superior dielectric performance and optional surface treatment can lead to excellent electrical insulation, especially in high voltage applications.

OTHER ADVANTAGES

Many specific performance advantages can be achieved through the use of our minerals. For example, sound damping, barrier effects and for use as carriers to deliver liquid process additives.

Certain products are available for use in pharmaceutical and food contact applications.

IMERYS
PRODUCTS FOR
RUBBER

Key
- ● Recommended
- ● Can be used

		SURFACE TREATED CALCINED KAOLIN		CALCINED KAOLIN					HYDROUS KAOLIN		HARD KAOLIN		SURFACE TREATED HARD KAOLIN			SOFT KAOLIN
		Polarite™ 503S	Polarite™ 403A	PoleStar™ 400	Glomax™ LL	Glomax™ LX	PoleStar™ 450HP	PoleStar™ 450	Hydrite ™ Flat D	Kaopaque™ 10	Suprex™	Barden	Amlok 321	Mercap 100	Mercap 200	Paragon™
RUBBER COMPOUNDS	Cable Insulations	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Cable Sheath	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Hose	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Footware	●	●	●	●	●	●	●	●	●	●	●	-	●	●	●
	Flooring	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Pharmaceuticals	●	●	●	●	●	-	-	-	-	-	-	-	-	-	-
	Seals/Gaskets	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Tyres	●	●	●	●	●	●	●	●	●	●	-	-	●	●	-
PROCESSING	Extrusion	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Moulding	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Calendering	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
TYPICAL PROPERTIES	Brightness (ISO R457)	90	90	92	91	91	85	86	81.5	89	75	-	-	75	75	-
	+ 10µm (mass % max.)	1	2	2	2	5	3	2	2	12	1	-	-	1	1	-
	- 2 µm (mass %)	68	94	94	66	66	70	70	36	82	70	-	-	93	93	-
	d_{50} (µm)	1.5	0.6	0.6	1.5	1.2	1	1	4	0.7	0.3	0.3	-	0.3	0.3	-
	Surface Area (BET; m^2/g)	9	15	15	9	9.4	15	14	7	16.5	24	-	-	24	24	-
	Moisture (mass % max.)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1	1	-	-	-	-	-
	Oil absorption (g /100g)	65	75	76	65	69	69	65	34	-	38	-	-	35	35	28
	Aerated powder density (kg/m^3)	310	248	135	290	310	235	290	386	168	-	-	-	-	-	-
	Tapped powder density (kg/m^3)	374	331	185	520	560	292	380	338	205	-	-	-	-	-	-
	Specific Gravity (kg/m^3)	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	3	2.6	2.6	2.6
	+ 53µm (ppm max.)	500	500	200	200	200	-	-	-	-	2500	-	-	2500	2500	-

Please Note:

The properties quoted within this document are typical properties only and do not constitute a specification.

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