



ORZEŁ S.A.

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**CRUMB RUBBER
MANUFACTURING
FACILITY**

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ABOUT THE COMPANY

ORZEŁ S.A. has been active on the tyre recycling market since 2002. The scope of its activity comprises:

- the market of used tyres as raw material for the Crumb Rubber Manufacturing Facility;
- SBR crumb rubber market;
- the market of steel cord recycled from tyres;
- the market of textile cord recycled from tyres;
- active fine powder market.

At the Crumb Rubber Manufacturing Facility we use a unique recycling technology to process over a dozen thousand tonnes of used car tyres annually. We set great store by environmental protection and therefore spend millions on research and innovative technologies, thanks to which Orzeł S.A. has positioned itself as a major player on the market of rubber and plastics. As one of few companies in Europe, we are capable of tailoring our products to the individual needs of the customer, at the same time maintaining the highest quality standards and proper compound composition.



TIRE RECYCLING

The technology used in the recycling process of carefully selected tyres consists in frequent mechanical crushing to achieve the required granule size. As a result, SBR crumb rubber is created. It is free of all impurities and steel or textile cord (-0.1%). We can provide our certificates as well as physical and chemical analyses on request.

NAME	INFORMATION	APPLICATION
ORZEL ACTIVE FINE POWDER	40mesh (0-0,4mm), 30mesh (0-0,6mm)	rubber pipes, watering hoses, conveyor belts, rubber parts for the automotive industry, door and window seals, insulation, anti-vibration belts and mats;
ORZEL POWDER	(0,0-0,6 mm), (0,0-0,8mm), (0,0-1,0mm)	manufacturing of rubber compounds, car floor mats, wipers, shoe soles, rubber machinery protection, adhesion-increasing component added to asphalt, insulation blocks near roads, floor mats for livestock, rubber hoses;
ORZEL INFILL	(0,5-1,5 mm), (0,6-2,0 mm),(0,8-2,0mm), (1,0-2,5mm), (1,0-3,0mm)	infill of artificial grass on sports fields such as football pitches;
ORZEL BASE	(1,0-4,0 mm), (2,0-4,0mm), (2,0-6,0 mm), (2,0-8,0mm), (3,0-6,0 mm), (3,0-8,0mm), (4,0-20mm)	playground surfaces, treads, polyurethane panels and vibroinsulation mats, vibroinsulation of machinery and equipment bases, underlay for sports surfaces,backfill for railway sleepers, road embankments and subsoil reinforcement, cattle/horse paddocks;
KORD STALOWY	Contamination 5-8%	input material for metallurgy;
KORD TEKSTYLNÝ	Calorific value 27-28 MJ/kg	alternative fuel used in cement plants, CHP plants, as well as in the pulp and paper industry.



ABOUT THE PRODUCT

ORZEŁ ACTIVE FINE POWDER

Our know-how has focused on the process of recycling tyres, manufacturing SBR crumb rubber and recently on the production of active fine powder, whose composition combines natural and synthetic rubber of 40mesh or 30mesh granulation. The application of unique technology enables us to process various types of technical rubber used in thermoplastic and rubber compounds. The input material for production at Orzeł Active Fine Powder is crumb rubber, manufactured in the process of recycling specially selected lorry tyres. The powder is used in the first place as a filler, notably as a substitute for synthetic and natural rubber. The replacement of expensive components with the powder allows us to significantly reduce the manufacturing costs of our products.

NAME	FRACTION	DESCRIPTION
ORZEL ACTIVE FINE POWDER	ORZEL40 TT	40mesh (0-0.4 mm), TT- lorry tyres
ORZEL ACTIVE FINE POWDER	ORZEL40 MT	40mesh (0-0.4 mm), MT - mixture of lorry and passenger car tyres
ORZEL ACTIVE FINE POWDER	ORZEL30 TT	30mesh (0-0.3 mm), TT- lorry tyres
ORZEL ACTIVE FINE POWDER	ORZEL30 MT	30mesh (0-0.3 mm), MT - mixture of lorry and passenger car tyres



PROPERTIES

During the vulcanisation process (e.g. tyre manufacturing), not all double bonds are divided and rubber is not fully cross-linked. While crushing tyres and manufacturing Orzeł Active Fine Powder, the specific surface area of the particle increases, which facilitates cross-linking during the next vulcanisation process. Due to its size and the shape of its particles, Orzeł Active Fine Powder can be successfully re-vulcanised, and the resultant mechanical properties can be used effectively in rubber products.

APPLICATION

Orzeł Active Fine Powder, manufactured by ORZEŁ S.A., can be used in numerous fields, such as the production of rubber compounds, thermoplastic elastomer compounds, and as an asphalt modifier.

ORZEŁ ACTIVE FINE POWDER IN THE RUBBER INDUSTRY

Orzeł Active Fine Powder is used for manufacturing technical products such as: rubber pipes, watering hoses, floor tiles resistant to weather conditions, conveyor belts, rubber parts for the automotive industry, door and window seals, insulation, anti-vibration belts and mats. Using Orzeł Active Fine Powder as a component of rubber compounds, we can improve the static and dynamic properties of rubber products. Orzeł Active Fine Powder used in rubber compounds speeds up vulcanisation.



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