

Specialists in mechanical powder processing and particle technology for over 90 years

## Contract Powder Processing

Equipped with a variety of mills and classifiers and supported by our own analytical laboratory, British Rema has experience in handling many diverse materials, from specialist minerals to application-critical composite resins for the aerospace industry.

Accredited to ISO9001:2015, we have an externally validated quality system and use standard operating procedures.

Working with particle sizes from 1 micron to several millimetres, British Rema Processing offers customers a cost-effective and efficient service tailor-made to their requirements.

### Processes and Particle Sizes

**Opposed Jet Mills:** a type of air microniser designed for the superfine grinding of a wide range of materials. Opposed jet mills are particularly suitable for the processing of harder materials. Accurate and controllable particle sizes can be achieved with sharp cut-off and a typical narrow size-distribution. Output particle sizes range from 2 to 150 microns.

**Rotary Impact Mills:** are used for less abrasive applications. A rotary impact mill is a versatile high speed impact grinder. Rotary impact mills can include an integrated classifier system that extends the particle size range and narrows the particle size distribution. Output particle sizes greater than 10 microns.

**Aerosplit Classifiers:** air-swept classifiers capable of accurately separating products of exceptional fineness over a wide range of feed size variations. This equipment is most effective with particle sizes ranging from 3 to 150 microns.

**Unit Air Separators:** air-swept classifiers suitable for the classification of a wide range of high-volume materials. Unit air separators are particularly suitable for the removal of small quantities of oversize material or the de-dusting of granular materials to remove undesirable 'fines'. Ideally suited to operation within the 25 to 300 micron range.

**Screens and Sifters:** mechanical screens and sifters are efficient and cost-effective units, normally suitable for larger particle sizes and are capable of separating input material into multiple fractions in a single process by using a multi-tier system. Operating from 100 microns to 5mm.



The range of equipment available at our facility allows us to be versatile in how we engage with our customers to meet their requirements. We are able to handle R&D samples, intermittent production runs (where equipment investment would not be justified) through to fully-outsourced production.



**Quality Systems:** Accredited to ISO9001:2015, British Rema has an externally validated quality system using standard operating procedures. A strict Health and Safety Management System is operated whereby COSHH and chemical task risk assessments are carried out for all materials. Safe Systems of Work are created for all processes and tasks. Due to high industry regulation we are accustomed to undergoing detailed supplier audits and can provide full product traceability.

**Volumes:** Processing volumes can range from a one-off batch of a few kilos to regular monthly production runs of many tonnes. The facility is equipped with different sizes of each machine type, guaranteeing consistency on scale-up between trial and production volumes.

### British Rema Processing Ltd

Image Works, Foxwood Close, Chesterfield, S41 9RN, UK  
**Tel:** +44 (0)1246 269955 **Fax:** +44 (0)1246 269944  
**Email:** sales@britishrema.com **Web:** www.britishrema.com

Registered address: Masters House, 107 Hammersmith Road, London, W14 0QH  
 Company Registration No. 1491606



## Applications and Processes

**British Rema Processing has an expert knowledge and experience of the characteristics and behaviours of a wide range of particulate and powdered materials. This enables our technicians to decide the most efficient and cost-effective method of production to obtain a specific product.**

For all contract processing customers, quality control procedures and appropriate measurements and sampling rates are agreed in advance. Analytical results are carefully recorded and certificates of analysis and conformity can be provided. Where customers require other analyses to be carried out prior to shipment (such as chemical composition), British Rema has close relationships with external analytical laboratories and can control the collation and reporting of data.

### Laboratory & Test Facilities

Our laboratory provides particle size analysis facilities and analytical services to customers who do not have their own equipment.

The laboratory is equipped with a Malvern Mastersizer 2000, with both dry and wet units, a Coulter LS230 wet laser cell device and air-jet sieving equipment. Together these provide the full range of standard analytical techniques relevant to the determination of particle size distributions in most industries.

### Particle Size Grades

Size Grade	Particle Size		
	Micron ( $\mu$ )	Millimetre (mm)	Mesh # BS410-1:2000
Very Coarse	>5,000	>5	>2
Coarse	1,000 to 5,000	1 to 5	16 to 2
Medium Fine	500 to 1,000	0.5 to 1	30 to 16
Fine	150 to 500	0.15 to 0.5	100 to 30
Very Fine	50 to 150	0.05 to 0.15	300 to 100
Superfine	10 to 50	0.01 to 0.05	1250 to 300
Ultrafine	<10	<0.01	<1250
Colloid	<1	<0.001	

### Typical materials

- Abrasives/super abrasives
- Advanced composites
- Adhesives
- Agricultural chemicals
- Animal feeds
- Carbon and graphite
- Cement
- Ceramics
- Clay
- Coal and coke
- Coatings
- Construction materials
- Cosmetics
- Detergents
- Dyestuffs
- Fertilisers
- Fillers
- Fine chemicals
- Frits, enamels, glazes
- Insecticides
- Marine feeds
- Metallic minerals and ores
- Metallic powders
- Minerals
- Pigments
- Pharmaceuticals
- Rare earths
- Resins
- Surface coatings

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