Refuse-derived fuels (RDFs) are fuels derived from waste that can replace primary fuels in the thermal processes of the primary industry or the energy generation sector.

Refuse-derived fuels can be distinguished into two categories based on the amount of processing they require:

**CATEGORY 1:**
- Types of waste that are initially recovered as a mono-fraction and can be sent for co-incineration without major treatment measures.

**CATEGORY 2:**
- High-calorific waste streams from a mechanical biological treatment process which must be treated before co-incineration to account for being recovered together with other waste materials.
- High-calorific light fraction after mechanical treatment (foils, waste wood, paper, plastics etc.), high-calorific fraction after mechanical and aerobic/anaerobic biological treatment.

The materials processed by our systems come predominantly from the second category: residual waste and bulky waste from households as well as residual industrial and commercial waste including household-type commercial waste, production-specific commercial waste, construction waste, sorting residues.

**OUTPUT < 30 mm**
- Suitable material for SRF main burners
- Particle size < 30 mm
- High specific properties

**OUTPUT < 100 mm**
- Suitable material for RDF calciner
- Particle size < 100 mm
- Low specific properties

**OUTPUT < 300 mm**
- Refuse-derived fuel for power plants
- < 300 mm
- Low quality

**EXAMPLE SYSTEM**
- Shredder -> ferrous metal separator -> screener -> wind sifter -> grinder

**EXAMPLE SYSTEM**
- Shredder -> ferrous metal separator -> screener -> wind sifter -> grinder

**EXAMPLE SYSTEM**
- Shredder -> Ferrous metal separator

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**At a glance:**
- Residual household waste
- Household waste, bulky waste, residual industrial and commercial waste
- Household-type commercial waste, production-specific commercial waste, construction waste, sorting residues, etc.

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**TREATMENT OF REFUSE-DERIVED FUELS**

Doppstadt, a family-run company based in Velbert (near Düsseldorf), was founded in 1965. Initially a producer of agricultural machines, Doppstadt has become a leading global supplier of solutions and services in all areas of recycling/environmental technology and resource recovery.

‘Best Solutions. Smart Recycling.’ True to this motto, we combine proven processes technology into individual solutions that are hallmarked by innovative process flows, maximum operational efficiency and cost-effectiveness. In the area of water-based separation and wet recycling systems in particular, we provide our customers with flexible, tailor-made solutions for all requirements. With sites in Velbert, Wülfrath, Calbe and Wilsdruff, we serve customers in more than 40 countries through our own dealership network and offer a wide range of services to support the unique Doppstadt product portfolio.
TREATMENT OF REFUSE- DERIVED FUEL PROCESS OVERVIEW

**SHREDDING**

**STEP 1:** Untreated commercial, industrial and household waste are fed into the shredder by a hydraulic grab arm or wheel loader.

**SCREENING**

**STEP 3:** Our screeners screen out fine particles to achieve the highest material quality. The cut point is adjusted specifically for the task at hand.

**MID SPEED SHREDDER**

**STEP 5:** The high-quality material is then put through our CUR0 and KIMO grinders to produce the desired end product. The output size of the material can be selected and changed by adjusting the screen size.

**WIND SIFTING**

**STEP 4:** To improve material quality, the light and heavy fractions are once again separated using our wind sifter. The light material is separated from the heavy material by means of an air current. This provides a second cut point for the light fraction to be separated a second time.

**MAGNET**

**STEP 2:** Ferromagnetic parts are separated by means of an overband magnet.

**PROCESS DIAGRAM**
### General View of Machines

#### Mobile

**DW**
- DW 2060 K
- DW 3060 Type F
- DW 3060 Type F BioPower
- DW 3060 K Type F
- DW 3060 K Type F BioPower

**SM**
- SM S18 Plus
- SM 620 Plus
- SM 620 K Plus
- SM 620 SA Plus
- SM 720 SA Plus

**SELECTOR**
- Selector 400
- Selector 800

**WS**
- WS 2000 K

**AIRFLEX**
- AirFlex 1500

#### Stationary

**DW**
- DW 2060 E
- CERON Type 206
- CERON Type 256
- CERON Type 306
- CERON Type 308

**SM**
- SM S18 A
- SM S18 F
- SM 620 A

**SST**
- SST 518
- SST 720
- SST 725
- SST 1025
- SST 1525

**DST**
- DST 512
- DST 712

**WS**
- WS 1001
- WS 1501
- WS 2001
- WS 2501
- WS 3001

**KIMO**
- KIMO Type 16
- KIMO Type 20

**CURO**
- CURO Type 250

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**Further processing**

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**Refuse-Derived Fuels**

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**General View of Machines**
Refuse-derived fuel treatment with Doppstadt means:

- Highest availability of the individual components guarantees the highest availability of the entire system
- Low-maintenance machines increase productivity in the long run
- Best quality shredding for optimal throughput and very economical costs

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