



**Comprehensive solution for
non-waste processing of reinforced
concrete constructions and scrap**



ENVIRONMENTAL MONITORING

Millions of tons of construction waste are generated annually in the world. Natural disasters, military conflicts, emergency situations, as well as the natural ageing of buildings have led to an overflow of landfills and an increase in the number of illegal landfills. The payment for the disposal of waste is growing every year.





WASTE RECYCLING



Construction waste is a valuable secondary raw material and must be recycled. In countries with developed economies, waste recycling turns into a full-fledged industry.

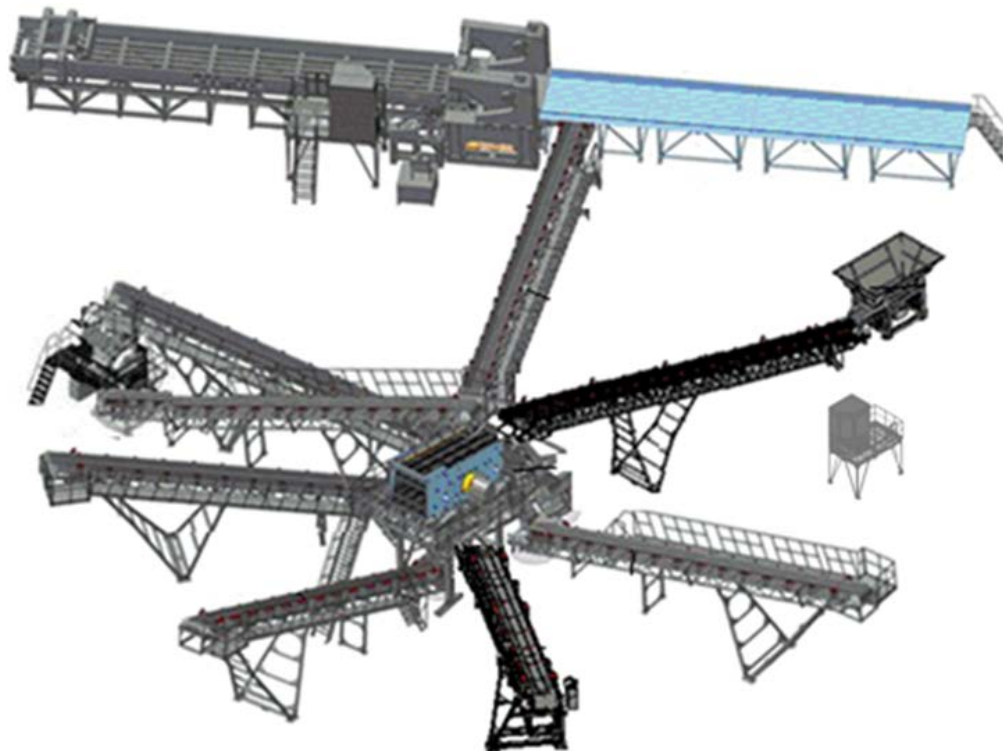


There invest means, technologies and equipment are constantly being modernized. Recycling companies bring a stable income to the owners.



UNIQUE ECOTECHNOLOGY

R&P ENTERPRISE «OPK» offers a unique technology for the processing of large-size concrete constructions through DSK-MPR-1500 allows recycling of bulky parts of concrete and reinforced concrete products, pieces of brickwork, ceramic-granite, tiles, ceramics and other materials without preshredding.



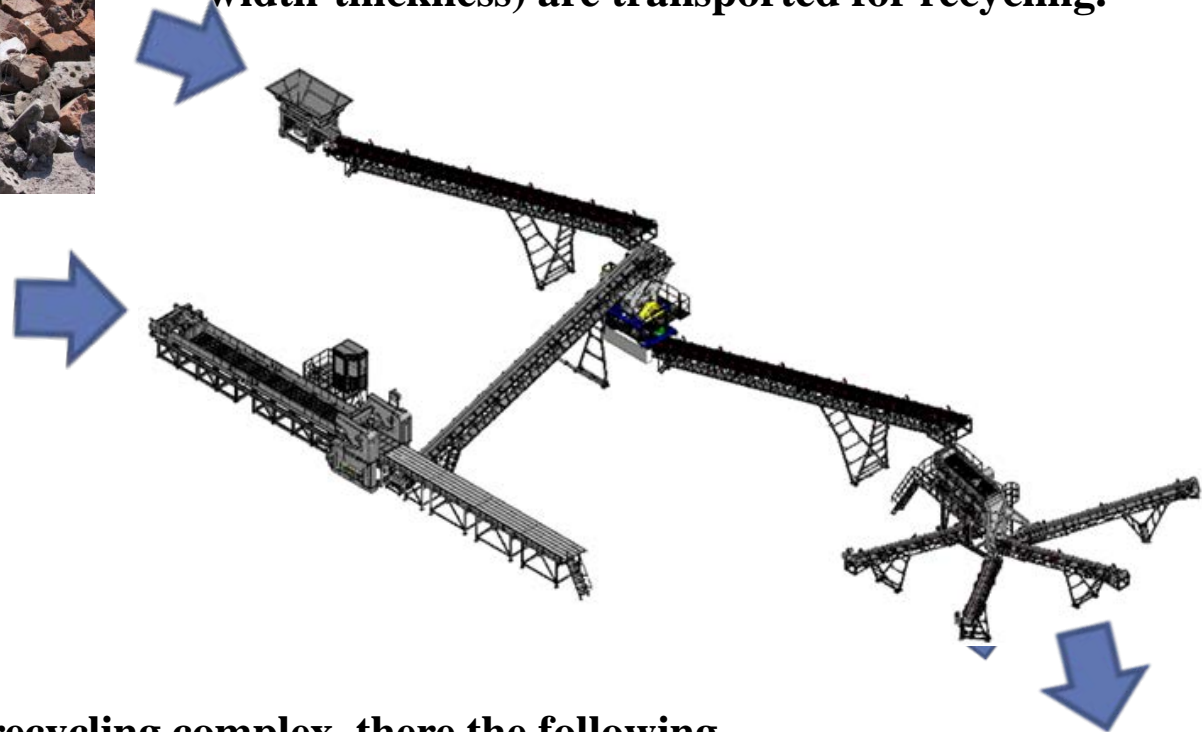
The technological line includes a complex of assemblies and mechanisms for preliminary recycling of the dismantled products, production defects of plants manufacturing reinforced concrete products as well as construction waste, etc. with subsequent automatic separation of reinforcing bars and metal inclusions, crushing and sorting in order to obtain secondary crushed stone of the necessary fractions.



DESCRIPTION OF THE TECHNOLOGICAL PROCESS



Reinforced concrete products and construction waste with a size of up to 12,000x1,500x600 mm (length-width-thickness) are transported for recycling.



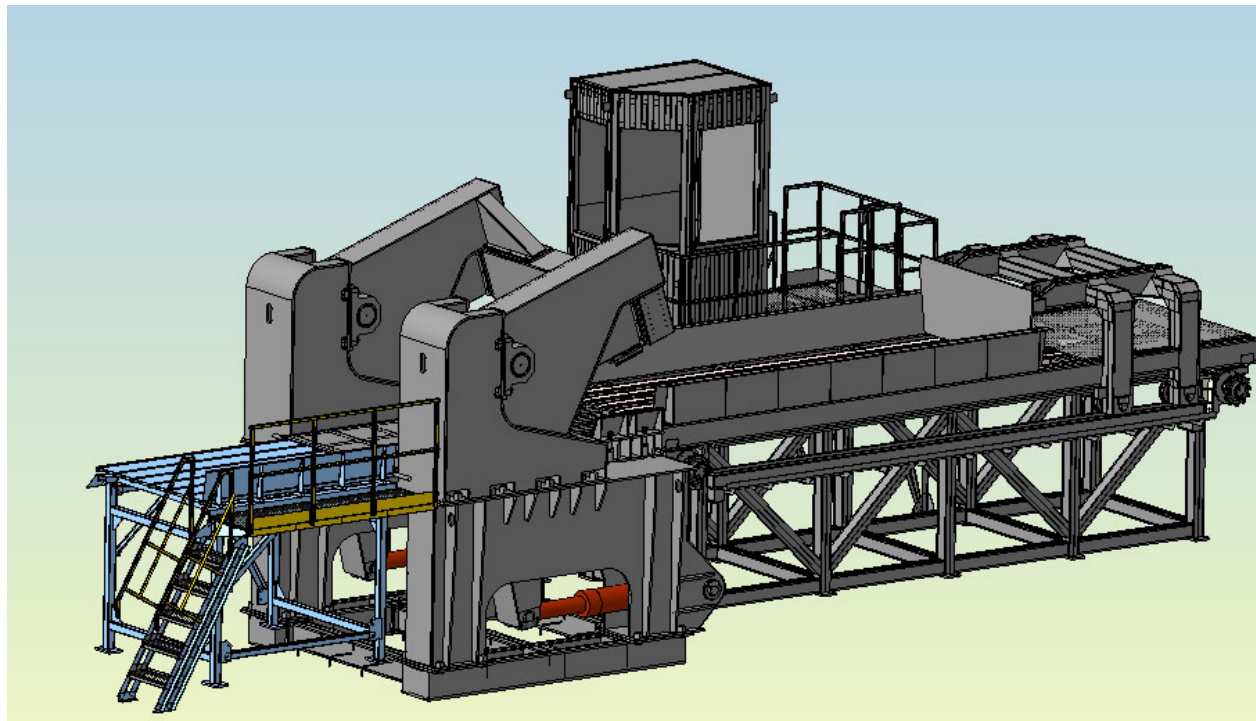
Downstream the MPR-1500 recycling complex, there the following fractions of the classified ready-building material (crushed stone): 0–5 mm, 5–20 mm, 20–40 mm, 40–70 mm; reinforcing wires/bars fit for scrap. The performance of MPR-1500 is up to 100 ton/h, the power consumption of the complex-up to 180 kW.





MACHINE FOR EFFECTIVE DESTRUCTION

Crusher MPR-1500 is the central element of recycling complexes for reinforced concrete waste. It is loaded with overall products made of strong concrete: support of the contact network, power lines, sleepers, road and paving slabs, curbs.





END PRODUCT

Due to recycling of reinforced concrete and construction debris you get the secondary product of different dimensions:

Gravel of fractions: 1-10 / 5-10 / 10-20 / 20-40 mm

Sand of fractions: 0-0,16 / 0,16-5 mm

Stone flour: Ssp. = 2800-3500 cm²/g





RECYCLED AND VIRGIN AGGREGATES TESTING

How different are the characteristics of crushed stone and crushed concrete rubble? For experiments were taken samples - "cubes" with an edge of 10cm.

The results of the experiments are shown in the table below.

Component	Component	Hardness, s	Density, kg/m ³	Density, kg/m ³
Recycled aggregates	0,42	5	2410	20,9
Natural aggregates	0,41	5	2415	20,9

As the results show there is an insignificant difference in strength characteristics between recycled and natural aggregates. It's very reasonable to use recycled reinforced concrete as coarse aggregates for heavy-weight low-grade concrete, as for example foundation blocks or for roads partial filling.

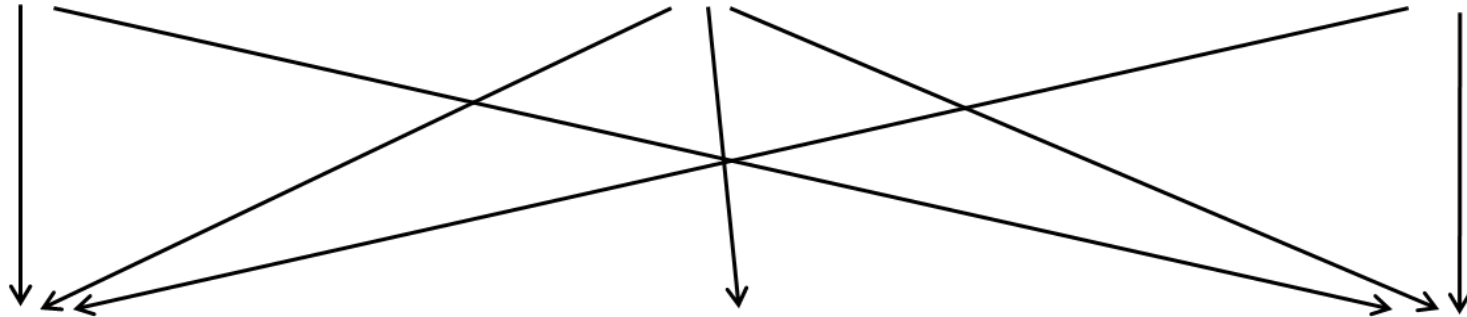


RECYCLED AGGREGATES ARE USED IN FOLLOWING INDUSTRIES

**Graded crushed stone
(gravel)**

Screened sand

Stone flour (fog)



**Manufacture of
concrete and
reinforced concrete**

**Road construction
industry**

**Production of self-
compacting concrete M
300-350**



AREAS OF RECYCLED AGGREGATES UTILIZATION:

Fractions 10-70 mm:

As a coarse aggregate in producing Self-Compacting Concrete (SCC)

Producing Concrete Goods: foundation wall blocks, elements of storm water drain, storing wells, etc.

Soil stabilization: slope dressing, embankments, parking areas, etc.

Laying and repairing water supply and water disposal systems

In housebuilding as a foundation mattress

In roadbuilding

Fractions 1-10 mm:

As a filler in foamed and gas concrete

Paving flagstone

Kerbs

Stair flights

Fences and crash barriers

Decorating elements

Landscape architecture

As earth replacement for backfilling (foundation pits, etc)



CONSTRUCTION ON PARKING LOTS AND HIGHWAYS



Formation of layers of highways





SELF-COMPACTING CONCRETE MIXES



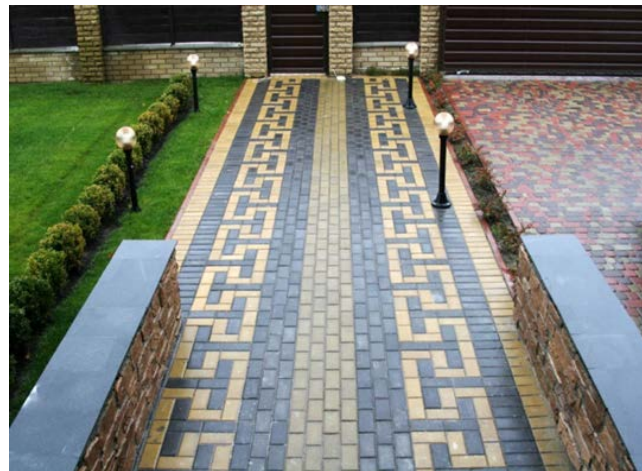


MANUFACTURE OF ARTICLES OF CONCRETE AND REINFORCED





BUILDING BLOCKS, PAVING SLAB, LANDSCAPE DESIGNSELF-COMPACTING





FENCE PRODUCTION





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