



**Czech producer of shredders, mills and recycling plants**

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# Tyre recycling line

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# 1. Specifications

Material:	common truck and private car tires up to diameter 1 200 mm
Quantity:	3 tons/hour of tires
Output:	approx. (50 - 70) x (50 – 70) mm

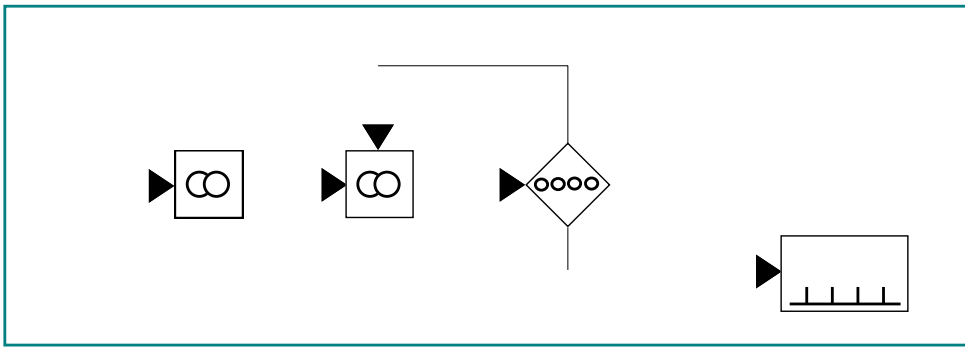
# 2. Offer

## Preshredding line



The staff dose the tires by a conveyor into a two-shaft low-speed shredder SCE 1300-150 KW. This shreder is designed especialy for shredding tyres. Shredder has two solid rotors with knives holders. Knives holders and distance rings are forced on on the shafts. Small easy changable knives are mounted on the knives holders by 3 screw each. Both sides of knives holder are covered by covers from toll steel. Between knives is 0,1 mm space for cutting tires. The shredder has easy changable knives without dismounting the shredder. Knives are from special tool steel. The tires are pre-shredded into sraps. The scraps are around (100 – 250) x (100 – 250) mm.

The rubber crumb then continues to a radial mesh that returns the pieces exceeding approx. (50 – 70) mm back to the low-speed shredder. Undersize material is transported into the feeding reservoir that feeds shredding line by constant per-hour-quantity.



List of machines:

1	chain conveyor.1 300mm/7m-23°	2,2
2	Shredder SCE -1300-150 kW	150
3	frame for shredder	
4	Radial mesh 900/4000	5,5
5	Conveyor w. 800mm/9m	1,1
6	Return conveyor w..800/8m	1,1
7	Conveyor w.800mm/8m	1,1
8	Central electric control	

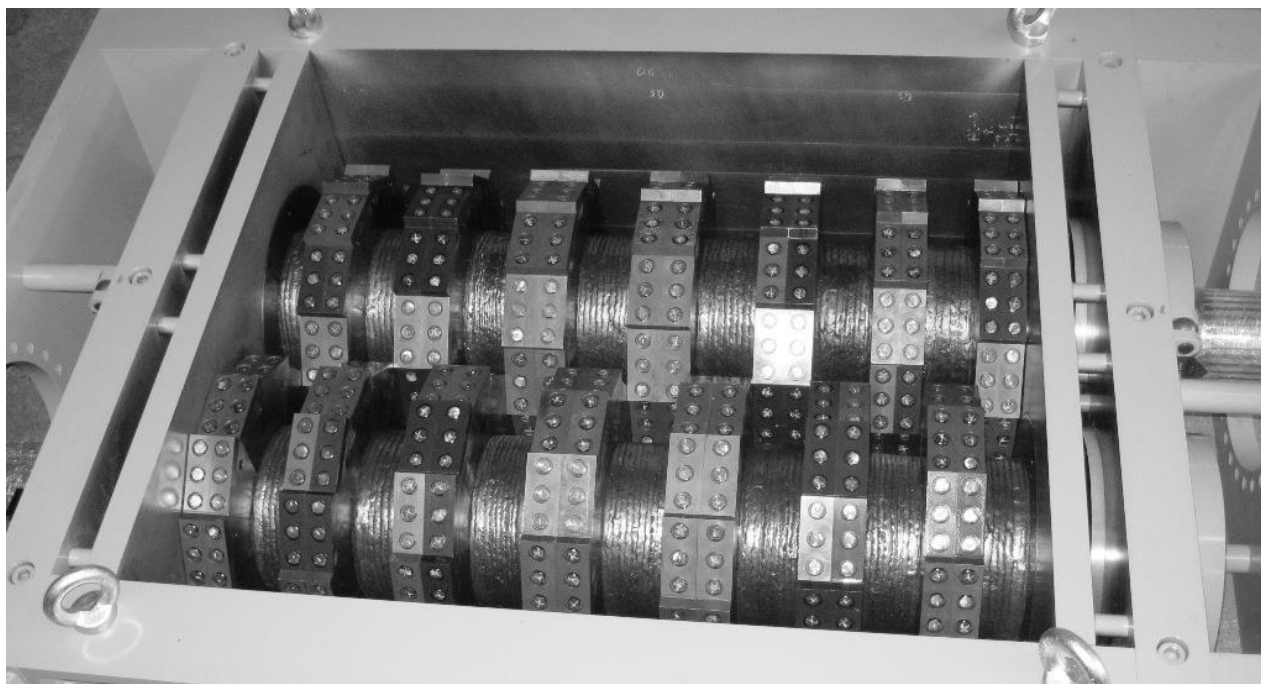
## 2.1 Technical parameters

**SCE 1 300/1150:**

Shredding area size	1300x1 115mm
Knife width	75, 85, 95, 105 mm
Rotor revolution	10 rev/min
Drive	2 x planetary gearing box
Power	150 kW
Number of rotor holders/knives	14/336
Power output on a shaft	75+75 kW
Throughput	7 - 12 t/hour
Lowering hydraulic aggregate power input	3 kW
Weight	15 t
Rating moment	100 000 Nm
Dimensions w x l x h	4500 x 2100 x 3200 (INCL FRAME)

## 2.2. Spare parts – service life

### Shredder SCE 1 300



The main advantage of this shredder is, that knives are easy changeable without dismounting the shredder and the price for spare parts (operating costs) is much lower then in common shredders. After aprox. 6 000 t it's necessary to turn the knives. After another 6 000 t knives have to be sharpened. Because shredder has 4 different size of knives (105, 95, 85 and 75 mm) only 96 pcs knives size 105 mm should be added and the others are sharpened to smaller size ( 105 to 95 and so on).

To get output pieces (50-70) x (50-70) mm tires have to go 3 times through the shredder (see video below) for one cutting edge You cen get aprox 2 000 ton of output pieces (50-70) x (50-70) mm.

## 3. Realization period

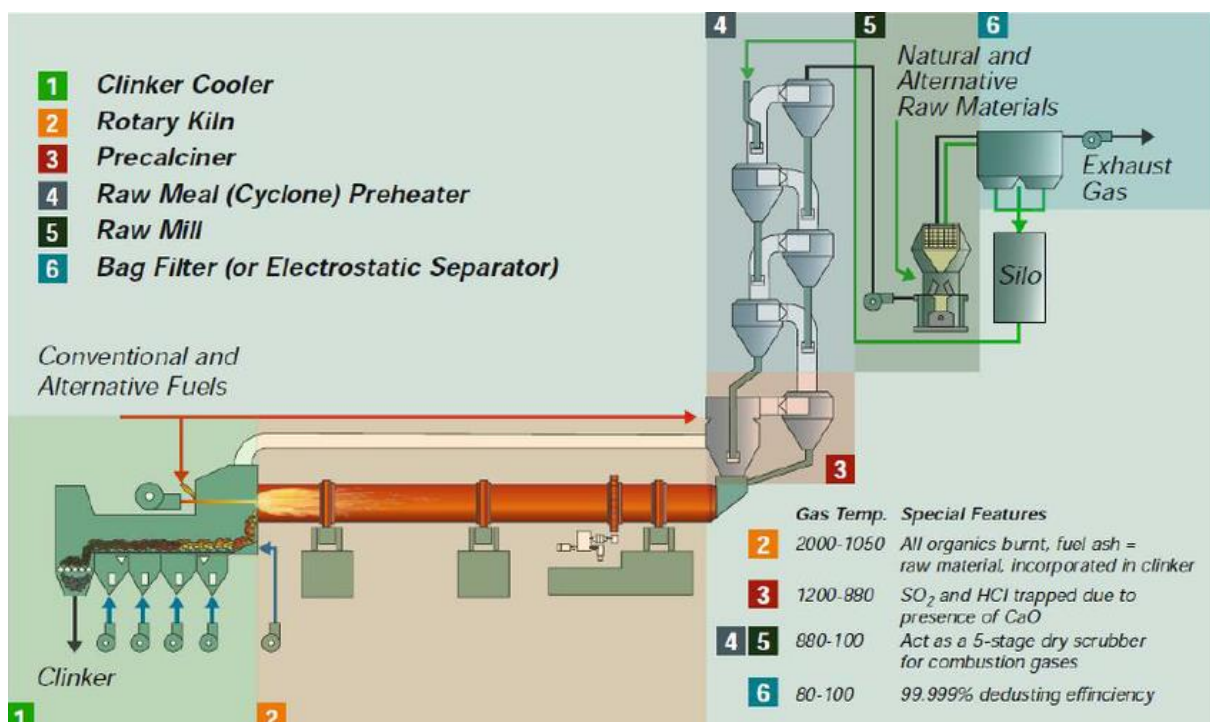
1. Project stage
2. Production of the machines 5 - 6 months

## 4. Payment condition

1. Deposit 30 % after the sign of the contract
2. Deposit 30 % 2 month after the sign of the contract
3. Deposit 40 % after tests in Terier before transport

## 5. Application

Rubber crumb is possible to use as alternative fuel (TDF – tyre derived fuel) in cement plants.





Calorific value is around 30 MJ/kg, what is the same amount of energy as oil and 25% more energy than coal

- The ash residues from TDF may contain a lower heavy metals content than some coals.
- Results in lower NO<sub>x</sub> emissions when compared to many coals, particularly the high-sulfur coals.

### References :

Al Omair Rubber Factory (tubes), Riyadh, Saudi Arabia, 1997

GRG Holding, Czech rep., 2004, 3t/hour

Ekoela, Elektrinės 21, Elektrėnai, Lithuania 2006

MARSO for chemicals, Industrial Zone A1, 10<sup>th</sup> of Ramadan City, Egypt 2007, 2010, 2014

GRG Holding, Tušimice, Czech rep. – 8t/hour,

Bonus České Budějovice, Czech rep. 4t/hour,

Cleroden, Czech rep. – 2t/hour

Godecie, Czech rep. – 2,5t/hour

Mesnac, Qingdao, China, 3t/hour

Bene trade Czech, 1t/hour, private car tires

Metaloidas, Lithuania, 2,5t/hour

Atbara Cement Company, Sudan, 5t/hour

Metaloidas for Finland, 5t/hour

Video: <https://www.youtube.com/watch?v=4zEMzYAzSaY>  
<https://www.youtube.com/watch?v=gOfbdgmXGv0>  
<https://www.youtube.com/watch?v=VNPWB5So20I>

