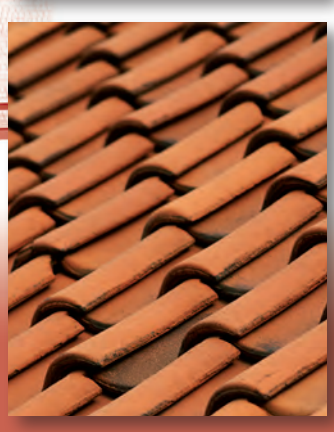
Clay Grinding Systems

Applications, Process, Properties

Clay is widely used for floor-, wall- and roof tiles, bricks and hollow gauged blocks in the building industry.

Clay is manufactured in a wet or **dry process**. Grinding and drying of raw material is done before mixing with water and storaging on wet piles.

Clay has a flaked or layered shape, a good affinity for water and a tendency towards high plasticity while being wet. After baking the clay converts into a ceramic material.



NEA Benefits

Experience
- **since 1950** in clay grinding
- **today, more than 25 clay grinding systems** are in successful operation

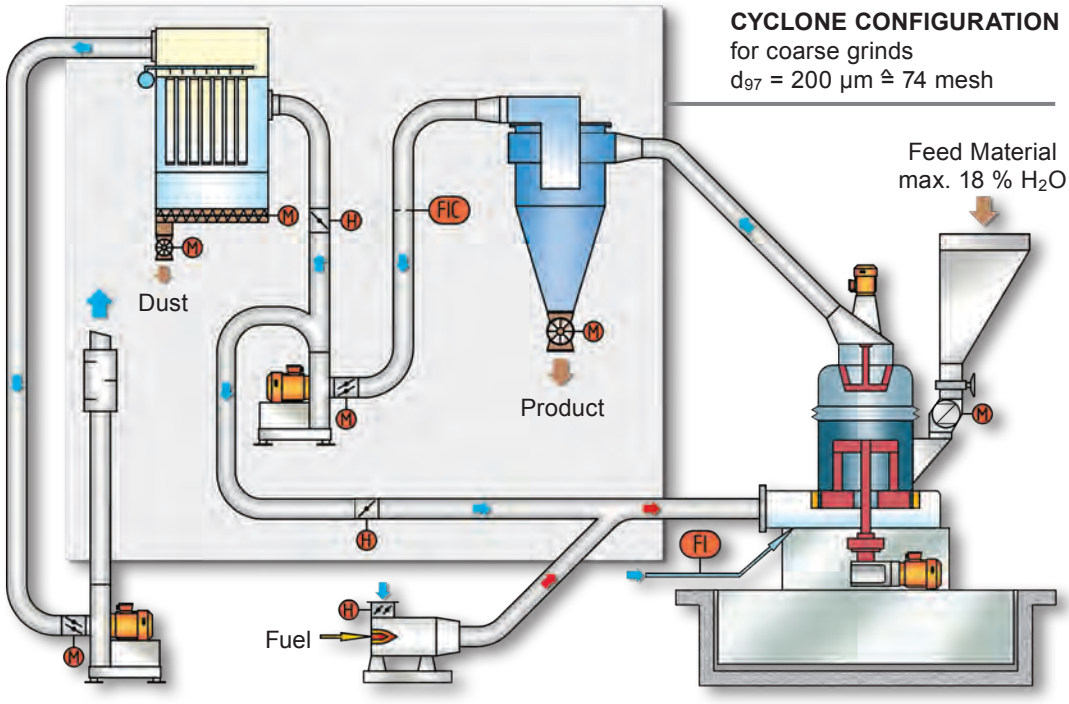
Fineness

coarse grinds: d_{97} = 200 µm for roof tiles and bricks
fine grinds: d_{97} = 63 µm for floor and wall tiles
- **sharp top cuts even at coarse grinds by SDR Radial Classifier**

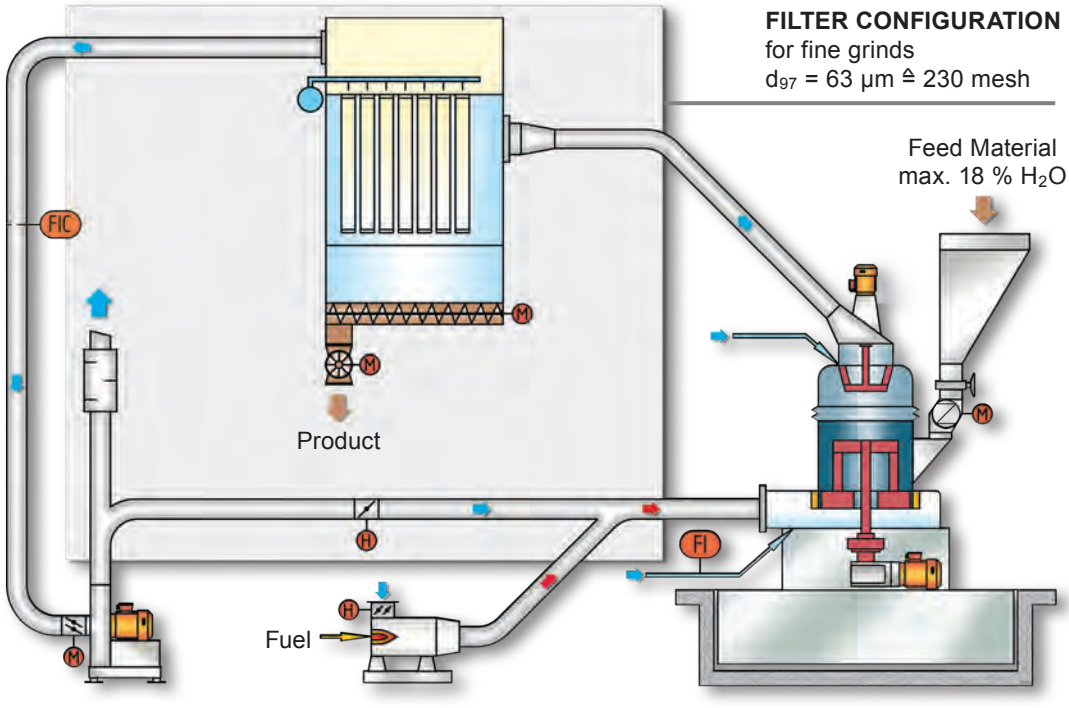
Moisture

feed material max. 18 % H_2O
final product with 1 - 4 % H_2O
- **hot gas generator for drying while grinding is provided**

Operation costs
- **low specific wear costs and**
- **low specific electrical and thermical power consumption are provided in NEA systems for clay grinding**



CYCLONE CONFIGURATION
for coarse grinds
d_{97} = 200 µm ≙ 74 mesh



FILTER CONFIGURATION
for fine grinds
d_{97} = 63 µm ≙ 230 mesh

Mill type	PM	03 O3	05 O3	08 U3 08 U4	12 U3 12 U4	16 U3 16 U4	20 U3 20 U4			30 U3 30 U4		60 U3 60 U4	
Grinding ring DIA	mm	940	1066	1270	1460	1670	2000			2300		2650	
Air flow rate	m³/min	180	260	430	640	940	1200	1380	1570	1800	2340	2800	3500
Discharge rate Coarse grinds	t/h	6.5	9.4	15.5	23.0	33.8	43.2	49.6	56.5	64.7	84.1	100.7	125.9
Mill motor	kW	45	75	110	160	250	315	355	400	450	560	710	800
Discharge rate Fine grinds	t/h	2.2	3.1	5.2	7.7	11.2	14.4	16.5	18.8	21.5	28.0	33.5	41.9
Mill motor	kW	30	45	75	110	160	200	250	250	315	355	450	560

Discharge rates are valid for clay with feed moisture of max. 8% H_2O and final product moisture with 1-4% H_2O.

Based on mills with three pendulums.

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