

2021 Values of emission factors for SOE, Recycling lines and other

Original text: Věstník MŽP 2022 č. j. MZP/2022/050/570 p. 41-43

Stone quarries and surface mines of other minerals (except power fuels), processing of minerals, production and processing artificial stone which have projecting capacity up 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).

Technology process	Emission factor of TSP · t ⁻¹	
	Dry material (Max. 1.3% of weight)	Wet material ¹ (More than 1.3% of weight)
Drilling works	10	10
Loading/unloading material ¹	4.3	0.9 ³
Grinding ²	2.7	0.6
Sorting ²	12.5	1.1
Oversifting ²	1.5	0.07

¹ methods of detection concrete emission factor of the wet materials, the wet level is determinate by drying the material at 105 °C.

² all manipulations must be included.

³ all types of mining works under the water level are unclassified stationary source by the Act 201/2012 Coll. on Air Protection, the value of emissions are unobserved.

Technology process	Activities reducing the emission amount of TSP	Efficiency [%]
Drilling works	Fabric filters	97
Grinding ¹	Water spraying	50
	Water surfactant spraying	75
	Partial covering	85
	Complete covering	90
	Position in hall	95
Sorting ¹	Covering	50
	Covering and water spraying	75
	Covering and water surfactant spraying	90
	Covering and letting through fabric filter	95
Oversifting ¹	Wet process of sorting	100
	Water spaying	95

¹ Efficiency of activities reducing the emission amount of TSP is possible apply just in a case of processing dry materials.

Every next application of activities reducing the emission amount of TSP to one source increases the efficiency, the total efficiency in a case application two of them is counting like multiple

Ex. Total efficiency of two activities reducing the emission amount of TSP to one source

$$(100 - 50)/100 \times (100 - 70)/100 = 0.15$$

Other technology	E_f in g TSP · t ⁻¹ dry sand	
Sand dryer	No precipitator	980
	Wet precipitator	19
	Fabric filter	5.3

Processing concrete which have projecting capacity up to 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).

Technology process	E_f in g · t ⁻¹ Produced concrete
	TSP
Total E_f of industrial concrete production (at average wet level and dosage of raw materials)	8.565

Recycling machines for construction materials which have projecting capacity up to 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).

Technology process	E_f in g TSP · t ⁻¹		
	Water spraying	No water spraying	Fabric filter
Waste from construction materials			
Loading	150	300	
Grinding ¹	20	300	8
Oversifting ¹	3	30	1
Sorting (grinded material) ¹	4	20	0.4
Unloading	3	19	
Construction stone aggregate²			
Loading	5	70	
Grinding ¹	30	100	3
Oversifting ¹	2	30	3
Sorting (grinded material) ¹	40	100	3
Unloading	1.2	12	

* Emission factors edit by project Aramis (available: <https://www.projekt-aramis.cz/indexENG.html>)

¹ All manipulations must be included.

² materials which contain more than 30% of Construction stone aggregate. If the composition of material is unknown, the emission factor for Waste from construction materials must be used.

2020 Values of emission factors for SOE and edited emission factors for stone quarries

Original text: [Věstník MŽP 2020 č. j. MZP/2020/ 130/1094 p. 7-9](#)

Stone quarries and surface mines of other minerals (except power fuels), processing of minerals, production and processing artificial stone which have projecting capacity up to 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).*

Technology process	E _f in g TSP · t ⁻¹	
	Dry material (Max. 1.3 % of weight)	Wet material ¹ (More than 1.3 % of weight)
Drilling works	10	10
Loading/unloading material ²	4.3	0.9 ³
Grinding ²	2.7	0.6
Sorting ²	12.5	1.1
Oversifting ²	1.5	0.07

*emission factors edit by EMEP/EEA Guidebook 2019

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³ all types of mining works under the water level are unclassified stationary source by the Act 201/2012 Coll. on Air Protection, the value of emissions are unobserved.

Technology process	Activities reducing the emission amount of TSP	Efficiency [%]
Drilling works	Fabric filters	97
Grinding ¹	Water spraying	50
	Water surfactant spraying	75
	Partial covering	85
	Complete covering	90
	Position in hall	95
Sorting ¹	Covering	50
	Covering and water spraying	75
	Covering and water surfactant spraying	90
	Covering and letting through fabric filter	95
Oversifting ¹	Wet process of sorting	100
	Water spraying	95

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Every next application of activities reducing the emission amount of TSP to one source increases the efficiency, the total efficiency in a case application two of them is counting like multiple.

Ex. Total efficiency of two activities reducing the emission amount of TSP to one source

$$(100 - 50)/100 \times (100 - 70)/100 = 0.15$$

Other technology	E _f in g TSP · t ⁻¹ Dry sand	
	Sand dryer	No precipitator
Wet precipitator		19
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Processing concrete which have projecting capacity up 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).

Technology process	E _f in g · t ⁻¹ Produced concrete
	TSP
Total E _f of industrial concrete production (at average wet level and dosage of raw materials)	8.565

Recycling machines for construction materials which have projecting capacity up 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).

Technology process	E _f in g TSP · t ⁻¹		
	Water spraying	No water spraying	Fabric filter
Waste from construction materials			
Loading	150	300	
Grinding ¹	20	300	8
Oversifting ¹	3	30	1
Sorting (grinded material) ¹	4	20	0.4
Unloading	3	19	
Construction stone aggregate²			
Loading	5	70	
Grinding ¹	30	100	3
Oversifting ¹	2	30	3
Sorting (grinded material) ¹	40	100	3
Unloading	1.2	12	

¹ All manipulations must be included.

² materials which contain more than 30% of Construction stone aggregate. If the composition of material is unknown, the emission factor for Waste from construction materials must be used.

2019 Values of emission factors for SOE and values of emission factors valued years before

Stone quarries and stone processing, extracting, precious stone work, production and processing natural and artificial stone which have projecting capacity up to 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).

Technology process	Ef in g TSP · t ⁻¹					
	Dry material (Max. 1.3% of weight)			Wet material ¹ (More than 1.3% of weight)		
	No Precipitator ²	Water spray ³	Fabric filter ⁴	No precipitator ²	Water spray ³	Fabric filter ⁴
Drilling works	10	10	0.4	10	10	0.3
Loading/unloading extract a Construction stone aggregate	0.2	0.2	0.2	0.1	0.1	0.1
Machine for processing construction stone aggregate:						
1) Primary grinding works	150	34	4	10	4	2.5
2) Primary sorting	140	13	3	8	3	2
3) Oversifting from conveyor (after primary drilling works)	100	10	3	5	3	2
4) Secondary grinding works	222	97	8	13	5	5
5) Secondary sorting (and other sorting after next parts)	210	35	4	12	4	2.5
6) Oversifting from conveyor (after every next drilling works)	150	15	3	8	3	2
7) Tertiary-quarterly grinding works	930	205	15	56	28	10

¹ methods of detection concrete emission factor of the wet materials, the wet level is determinate by drying the material at 105 °C.

² quarry with no precipitator, no covering technology machines and transport roads.

³ quarry with water spraying and full covering technology machines.

⁴ quarry with full covering technology machines and using fabric filters .

Technology process	Ef in g · t⁻¹ Produced concrete
	TSP
Total E _f of industrial concrete production (at average wet level and dosage of raw materials)	8.565

Recycling machines for construction materials which have projecting capacity up to 25 m³ per day (Annex No. 2 of the Act, point 4.5. decree, code 5.11.).

Technology process	Ef in g TSP · t⁻¹		
	No precipitator	Water spray	Fabric filters
Loading/unloading materials	0.2	0.2	0.2
1) Primary grinding	150	34	4
2) Primary sorting	140	13	3
3) Oversifting from conveyor (after primary drilling works)	100	10	3
4) Secondary grinding	222	97	8
5) Secondary sorting (and other sorting after next parts)	210	35	4
6) Oversifting from conveyor (after every next drilling works)	150	15	3
7) Tertiary-quarterly grinding works	930	205	15