
NLMK
BULK
PRODUCTS

CONTENT

SECTION 1

REGULATORY REFERENCES

GOST 3344-83
Crushed slag and slag sand for roadbuilding

GOST 3476-2019
Blast-furnace and electrothermophosphoric granulated slags for cement production

GOST 5578-2019
Slag crushed stone and slag sand of ferrous and non-ferrous metallurgy for concretes

GOST 8267-93
Crushed stone and gravel of solid rocks for construction

GOST 12085-88
Concentrated natural chalk. Specifications

GOST 14050-93
Limestone dust (dolomite). Specifications

GOST 18866-93
Crushed blast furnace slag for mineral wool.

GOST 31424-2010
Non-metallic construction materials from sifting of crushing solid stone in aggregate manufacturing

GOST 32826-2014
Public roads. Crushed slag and slag sand

GOST R 58770-2019
Public roads. Rubble-sand slag mixes

GOST 58894-2020
Silica fume for concretes and mortars.

TU 8.11.11-0002-00186855-2020
Crushed stone for construction

TU 8.11.20-0004-00186855-2021
Process limestone for sugar industry

TU 8.11.20-0005-00186855-2022
Crushed limestone

TU 8.11.20-0006-00186855-2022
Fluxing limestone beneficiation screening

TU 8.11.30-0007-00186826-2019
Natural lumpy chalk of Stoilensky from a dedicated dump of Stoilensky

TU 8.12.11-0002-00186826-2019
Natural sand of Stoilensky

TU 8.12.12-0005-00186826-2019
Crushed compact rock of Stoilensky

TU 8.12.12-0103-05757665-2022
Crushed concrete and reinforced concrete produced by the Met Slag Production Shop of NLMK

TU 8.12.22-0016-00186826-2020
Expanded clay of the Upper Ataman deposit of Stoilensky

TU 14-106-340-89
Iron(III) oxide

TU 23.52.10-0081-05757665-2021
Lime material

TU 38.32.22-0032-05757665-2021
BOF sludge for construction materials

TU 38.32.22-0112-05757665-2023
Abrasive material

STO 00186861-003-2019
Organizational standard for raw dolomite products

SECTION 2

BULK PRODUCTS SCOPE OF APPLICATION

Construction

Group	Process that uses the product	End product	End product application	Type of NLMK product	Size, mm	GOST	Specifications of GOST parameters in TU
Road construction	Removal of excess moisture and groundwater	Road drainage layer	Roads of categories 1–4	Granulated slag (slag sand)	0–5	GOST 32826-2014	
	Cold recycling road resurfacing	Road resurfacing	Roads of categories 2–4	Granulated slag (slag sand)	0–5	GOST 32826-2014	
	Construction of the bottom and levelling blankets of the base layer	Road base layer (racked-in chipping)	Roads of categories 1–4	BF gravel	8–16	GOST 32826-2014	
	Construction of the bituminous concrete surface	Coarse- and fine-grained asphalt concrete	Roads of categories 2–4	BF gravel	8–16	GOST 32826-2014	
	Construction and strengthening of roadsides	Roadsides	Roads of categories 1–4	BF gravel	31.5–63	GOST 32826-2014	
	Construction of the bottom and levelling blankets of the base layer	Road base layers	Roads of categories 1–4	BF gravel	45–63	GOST 32826-2014	
	Unstable soils compaction	Road base bottom layer	Roads of categories 2–4	BOF crushed stone	0–10	GOST 3344-83	
	Construction of the bottom and levelling blankets of the base layer	Category 4 road construction	Roads of category 4	BOF crushed stone	8–16	GOST 32826-2014	
	Construction of the bituminous concrete surface	Crushed stone-mastic asphalt concrete	Roads of categories 1–4	BOF crushed stone	8–16	GOST 32826-2014	
Construction materials	Cleaning and removal of contaminants	Abrasive material	Surface sandblasting	Abrasive powder made of granulated slag	0.3–1.5	n/a	TU 38.32.22-0112-05757665[2]
	Raw materials charge preparation	Cement clinker	Cement	Iron-bearing additives	Grade A	n/a	TU 38.32.22-0032-05757665[1]
	Raw materials preparation and mixing	Modified dry construction mixtures	Plastering and puttying	Packaged microsilica (MK-85)	-	GOST 58894-2020	
	Raw materials preparation and mixing	Concrete modifying additive	Commercial concrete	Densified microsilica (MKU-85)	-	GOST 58894-2020	
	Painting of construction materials	Orange pigment	Additive to paints and varnishes	Iron oxide, CR & Coated Flats Shop	-	n/a	TU 14-106-340[3]
	Raw materials preparation and mixing	Cement with mineral additives	Commercial concrete	Granulated slag	0–5	GOST 3476-2019	
	Production of premixed concrete	Commercial concrete	Concrete works in cottage and low-rise construction	BF gravel	5–20	GOST 5578-2019	
	Silicate melt production	Mineral wool	Thermal insulation of structures	BF gravel	70–120	GOST 18866-93	

[1] No GOST for iron-bearing additives is available. The following TU is developed to support potential sales to third parties: TU 38.32.22-0032-05757665-2021

[2] GOST for abrasive materials does not mention using slag as an abrasive material. The following TU is developed to support potential sales to third parties: TU 38.32.22-0112-05757665-2023

[3] No GOST for iron-oxide is available. The following TU is developed to support potential sales to third parties: TU-14-106-340-89

SECTION 2

BULK PRODUCTS SCOPE OF APPLICATION

Construction

Group	Process that uses the product	End product	End product application	Type of NLMK product	Size, mm	GOST	Specifications of GOST parameters in TU
Construction materials	Quartz elements melting	Glass containers	Carbonated drinks in glass bottles	Dolomite powder	Grade A	GOST 14050-93	GOST 14050-93
	Raw materials preparation and mixing	Ceramic tile and modified dry construction mixtures	Construction and renovation of premises	Dolomite powder	Grade A	GOST 14050-93	GOST 14050-93
	Raw materials preparation and mixing	Concrete and asphalt concrete filler	Industrial, civil and road construction	Dolomite powder	Grade A	GOST 14050-93	GOST 14050-93

Steelmaking

Group	Process that uses the product	End product	End product application	Type of NLMK product	Size, mm	GOST	Specifications of GOST parameters in TU
Ferrous industry	Reduction of iron in the blast furnace process as a deoxidizer	Raw material additive for metallurgical processing	Hot metal	DF-grade dolomite	5–60	n/a	STO 00186861-003[5]
	Reduction of iron in the blast furnace process as a deoxidizer	Iron ore concentrate	Hot metal	Limestone dust	0–15	n/a	TU 23.52.10-0081-05757665[4]
	Sintering	Sinter	Ironmaking	Dolomite powder	Grade C	GOST 14050-93	GOST 14050-93

Agriculture

Group	Process that uses the product	End product	End product application	Type of NLMK product	Size, mm	GOST	Specifications of GOST parameters in TU
Production of sugar	Whitening and purification of sugar syrup	Sugar	Food industry	Limestone	50–100	n/a	TU 08.11.20-0004-00186855[6]
Crop production	Preparation and mixing of the ground mass	Compound fertilizer	Increasing grain yields	Dolomite powder	Grade A	GOST 14050-93	GOST 14050-93
	Soil liming	Ameliorate	Soil acidity reduction	Dolomite powder	Grade C	GOST 14050-93	GOST 14050-93
Animal farming	Production of feed for farm animals	Compound feed	Animal food	Dolomite powder	Grade A	GOST 14050-93	GOST 14050-93

[4] No GOST for the limestone dust available. TU 23.52.10-0081-05757665-2021 is developed to support potential sales to third parties.

[5] There is no GOST for dolomite as an additive in metallurgical processing. STO 00186861-003-2019 is developed to support potential sales to third parties.

[6] There is no GOST for technological limestone for sugar production. TU 08.11.20-0004-00186855-2021 is developed to support potential sales to third parties.

SECTION 2.1

Road drainage layer

PRODUCTS

Product	Size, mm	Value	Filtration coefficient, m/day	Fineness modulus, FM	Metal impurity content, %	Clay particle content, %	Bulk density, t/m³
Slag sand	0–5	GOST 3344-83	-	1.0–2.5	3	1–5	-
		Typical	≥15.5	2.5	0.85	0	1.1
Slag sand	0–5	GOST 32826-2014	-	1.8–3.8	5	3	-
		Typical	≥15.5	2.5	0.85	0	1.1
Pit sand	0–5	GOST 32826-2014	-	1.8–3.8	5	3	-
		TU 08.12.11-0002-00186826	–	1.0–2.0	-	0.5	1.5

Recommended product

SECTION 2.2

Road resurfacing

PRODUCTS

Product	Size, mm	Value	Filtration coefficient, m/day	Fineness modulus, FM	Metal impurity content, %	Clay particle content, %	Bulk density, t/m³
Slag sand	0–5	GOST 3344-83	-	1.0–2.5	3	1–5	-
		Typical	≥15.5	2.5	0.85	0	1.1
Slag sand	0–5	GOST 32826-2014	-	1.8–3.8	5	3	-
		Typical	≥15.5	2.5	0.85	0	1.1

Recommended product

SECTION 2.3

Road base layer (racked-in chipping)

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
BF gravel	0–5	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	5–20	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	4–8	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	8–16	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
Slate sand	0–20	GOST 8267-93	M400–M1000	F15–F400	<10	И1–И1V	–
		TU 08.12.12-0005-00186826	M1200	F150	1.6	И1	1.8–2
Slate sand	20–60	GOST 8267-93	M400–M1000	F15–F400	<10 %	И1–И1V	–
		TU 08.12.12-0005-00186826	M1200	F150	1.6	И1	1.8–2

Recommended product

SECTION 2.4

Coarse- and fine-grained asphalt concrete

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
BF gravel	0–5	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	5–20	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	20–40	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	4–8	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	8–16	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	16–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BF gravel	22.4–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M800–M1000	≥F150	2.90	И1I	1.3
BOF crushed stone	0–5	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	5–20	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	20–40	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	4–8	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	8–16	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	16–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	22.4–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8

Recommended product

SECTION 2.5

Roadsides

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
BF gravel	20–40	GOST 3344-83	300–1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	40–70	GOST 3344-83	300–1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BOF crushed stone	20–40	GOST 3344-83	300–1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M1000	≥F50	2.80	ИИ	1.8
BOF crushed stone	40–70	GOST 3344-83	300–1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M1000	≥F50	2.80	ИИ	1.8
BF gravel	16–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	22.4–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	31.5–45	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	31.5–63	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	45–63	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
Crushed concrete	20–40	GOST 32495-2013	M300–M600	F15–F50	≤15	ИИИ–ИИV	–
		TU 08.12.12-0103-05757665	M300	F50	5	ИИИ	1.3
Crushed concrete	40–70	GOST 32495-2013	M300–M600	F15–F50	≤15	ИИИ–ИИV	–
		TU 08.12.12-0103-05757665	M300	F50	5	ИИИ	1.3
Dolomite gravel	20–40	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		Typical	M400	F50	6.30	ИИИ	1.3
Dolomite gravel	40–70	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		Typical	M400–M600	F50	6.30	ИИИ	1.3
Limestone gravel	50–100	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		TU 08.11.11-0002-00186855	M300	F15–F50	≤25	ИИ	1.3
Slate sand	20–60	GOST 8267-93	M400-M1000	F15-F400	<10 %	ИИ–ИИV	–
		TU 08.12.12-0005-00186826	M1200	F150	1.6	ИИ	1.8–2

Recommended product

SECTION 2.6

Road base layers

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
BF gravel	40–70	GOST 3344-83	M300–M1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	20–40	GOST 3344-83	M300–M1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
Crushed stone & sand mix	0–40	GOST 3344-83	M300–M1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
Crushed stone & sand mix	0–70	GOST 3344-83	M300–M1200	F15–F300	<10	ИИ–ИИV	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	31.5–63	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	45–63	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	16–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	22.4–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
BF gravel	31.5–45	GOST 32826-2014	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
Crushed stone & sand mix	0–31.5–2	GOST R 58770-2019	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
Crushed stone & sand mix	0–63–2	GOST R 58770-2019	M400–M1400	F15–F300	5–15	ИИ–ИИVI	–
		Typical	M800–M1000	≥F150	2.90	ИИ	1.3
Dolomite gravel	5–20	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		Typical	M400	F50	6.30	ИИИ	1.3
Dolomite gravel	20–40	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		Typical	M400	F50	6.30	ИИИ	1.3
Dolomite gravel	40–70	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		Typical	M400–M600	F50	6.30	ИИИ	1.3
Limestone gravel	5–20	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		TU 08.11.11-0002-00186855	M300	F15–F50	≤25	ИИ	1.3
Limestone gravel	8–25	GOST 8267-93	M400–M1000	F15–F400	<10	ИИ–ИИV	–
		TU 08.11.11-0002-00186855	M300	F15–F50	≤25	ИИ	1.3

Recommended product

SECTION 2.7

Road base bottom layer

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
BOF crushed stone	0–10	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8

Recommended product

SECTION 2.8

Category 4 road construction

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
BOF crushed stone	0–10	GOST 3344-83	300–1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	10–20	GOST 3344-83	300–1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	20–40	GOST 3344-83	300–1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	40–70	GOST 3344-83	300–1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
Crushed concrete	0–5	GOST 32495-2013	M300–M600	F15–F50	≤15	И111–И1V	–
		TU 08.12.12-0103-05757665	M300	F50	5	И111	1.3
Crushed concrete	5–20	GOST 32495-2013	M300–M600	F15–F50	≤15	И111–И1V	–
		TU 08.12.12-0103-05757665	M300	F50	5	И111	1.3
Crushed concrete	20–40	GOST 32495-2013	M300–M600	F15–F50	≤15	И111–И1V	–
		TU 08.12.12-0103-05757665	M300	F50	5	И111	1.3
Crushed concrete	40–70	GOST 32495-2013	M300–M600	F15–F50	≤15	И111–И1V	–
		TU 08.12.12-0103-05757665	M300	F50	5	И111	1.3
BOF crushed stone	4–8	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	8–16	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	16–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	22.4–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8

Recommended product

SECTION 2.9

Crushed stone-mastic asphalt concrete

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
BOF crushed stone	0–5	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	5–20	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	20–40	GOST 3344-83	M300–M1200	F15–F300	<10	И1–И1V	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	4–8	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	8–16	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	16–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8
BOF crushed stone	22.4–31.5	GOST 32826-2014	M400–M1400	F15–F300	5–15	И1–И1VI	–
		Typical	M1000	≥F50	2.80	И1	1.8

Recommended product

SECTION 2.10

Abrasive material

PRODUCTS

Product	Size, mm	Value	Moisture content, %	Mohs hardness	Bulk density, kg/m³	Clay particle content, %
Granulated slag abrasive powder	0.1–0.8	GOST n/a	–	–	–	–
		TU 38.32.22-0112-05757665	≤0.2	6	1100	0
Granulated slag abrasive powder	0.3–1.5	GOST n/a	–	–	–	–
		TU 38.32.22-0112-05757665	≤0.2	6	1100	0
Granulated slag abrasive powder	0.5–2.5	GOST n/a	–	–	–	–
		TU 38.32.22-0112-05757665	≤0.2	6	1100	0

Recommended product

SECTION 2.11

Cement clinker

PRODUCTS

Product	Size	Value	Iron oxide (Fe_2O_3+FeO) content, mass %	Moisture content, mass %
Iron-bearing additives	Grade A slag	GOST n/a	–	–
		TU 38.32.22-0032-05757665	70	10–12
Iron-bearing additives	Grade B slag	GOST n/a	–	–
		TU 38.32.22-0032-05757665	50	≤25
Iron-bearing additives	Advanced grade B slag	GOST n/a	–	–
		TU 38.32.22-0032-05757665	60	≤20
Iron-bearing additives	Sludge from sludge pits	GOST n/a	–	–
		TU 38.32.22-0032-05757665	40	≤25

Recommended product

Product	Value	Silicon dioxide mass fraction, %	Aluminium oxide mass fraction, %	Calcium oxide mass fraction, %	Moisture content, mass %
Clay and loam	GOST n/a	–	–	–	–
	TU 08.12.22-0016-00186826	61.0–71.5	10.7–14.6	0.9–6.3	≤25

Product	Value	$CaCO_3$ + $MgCO_2$ in $CaCO_3$ equivalent, %	Iron(III) oxide, %	Insoluble matters in hydrochloric acid, %	Moisture content, mass %	Pollution by clays, loams, and marl, %
Chalk	GOST 12085-88*	≥97–98.5	0.15–0.35	0.8–2	0.15–0.2	–
	Typical	≥90	0.5	≤5	16	<10

Product	Size, mm	Value	Calcium oxide mass fraction, %	Silicon oxide mass fraction, %	Magnesium oxide mass fraction, %	Moisture content, mass %	Dustlike and clay particle content mass, %
Beneficiation screening	0–20	GOST 31424-2010	–	–	–	–	≤0.25
		TU 08.11.20-0006-00186855	≥50	≤6	0.5–1.5	≤12	≤6.5

* Depending on the chalk grade

SECTION 2.12

Modified dry construction mixtures

PRODUCTS

Product	Value	Moisture mass fraction, %	Silicon oxide mass fraction, %	Mass losses after calcination, %	Calcium oxide mass fraction, %	Specific surface area of condensed microsilica, m^2/kg	Bulk density, kg/m^3
Packaged microsilica (MK-85)	GOST 58894-2020	3	≥85	3	≤3	≥12,000	150–399
	Typical	0.42	≥93.3	1.79	≤2.8	≥12,000	152.6

Recommended product

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	A	A
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	91.17
Calcium oxide mass fraction, %	–	30.90
Magnesium oxide mass fraction, %	–	17.74
SiO_2, %	–	4.32
R_2O_3, %	–	0.80
Particle size distribution, %		
>5 mm	0	0
>3 mm	≤3	0
>1 mm	≤15	0.03
Moisture mass fraction, %		
October–March	≤1.5	0.31
April–September	≤1.5	0.31

SECTION 2.13

Concrete modifying additive

PRODUCTS

Product	Value	Moisture mass fraction, %	Silicon oxide mass fraction, %	Mass losses after calcination, %	Calcium oxide mass fraction, %	Specific surface area of condensed microsilica, m^2/kg	Bulk density, kg/m^3
Densified microsilica (MKU-85)	GOST 58894-2020	≤5	≥85	≤3	≤3	≥12,000	400–600
	Typical	≤0.42	≥93.3	≤1.79	≤2.8	≥12,000	550

SECTION 2.14

Orange pigment

PRODUCTS

Product	Value	Iron oxide mass fraction, %	Mass fraction of water-soluble matters, %	Mass fraction of chloride, %	Oil absorption, g/100 g of iron oxide, %	Residue on 0.063 mesh sieve after wet sifting, maximum, %
Iron oxide, CR & Coated Flats Shop	GOST n/a	–	–	–	–	–
	TU-14-106-340-89	≥95	≤0.6	≤0.3	≤70	≤2
	Typical	≥99.5	≤0.57	≤1.18	≤44	≤0.52
GOES Shop iron oxide	GOST n/a	–	–	–	–	–
	TU-14-106-340-89	≥95	≤0.6	≤0.3	≤70	≤2
	Typical	≥99.4	≤0.48	≤0.13	≤38.8	≤0.5

Recommended product

SECTION 2.15

Cement with mineral additives

PRODUCTS

Product	Size, mm	Value	Moisture content, %	Quality coefficient	Fineness modulus, FM	Quantity of stonelike lumps, %
Granulated slag	0–5	GOST 3476-2019	–	1.45	1.0–2.5	≤5
		Typical	8–11	1.45	2.5	≤5

Recommended product

SECTION 2.16

Commercial concrete

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Content of dust and clay particles, %	Bulk density, t/m³	Group of crushed stone according to grain shape
BF gravel	5–20	GOST 5578-2019	M300–M1200	F15–F300	≤5	–	1–3
		Typical	M600–M800	F150	≤2	1.2	2
BF gravel	20–40	GOST 5578-2019	M300–M1200	F15–F300	≤5	–	1–3
		Typical	M600–M800	F150	≤2	1.2	2
Dolomite gravel	5–20	GOST 8267-93	M400–M1000	F15–F400	≤2	–	2
		Typical	M400	F50	≤1.6	1.3	2
Dolomite gravel	20–40	GOST 8267-93	M400–M1000	F15–F400	≤2	–	2
		Typical	M400	F50	≤1.2	1.3	2

Recommended product

Product	Size, mm	Value	Sand class by grain size	Fineness modulus, FM	Content of dust and clay particles, %	Lumpy clay content, %	Bulk density, t/m³
Open pit sand	0–5	GOST 8736-2014*	I–II	0.7–3.5	2–10	≤0.5	–
		TU 08.12.11-0002-00186826	II	1.0–2.0	≤5	≤0.5	1.5

Product	Size, mm	Value	Crush ability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³
Limestone gravel	5–20	GOST 8267-93	M400–M1000	F15–F400	<10%	И1–И1V	–
		TU 08.11.11-0002-00186855	M300	F15–F50	≤25%	И11	1.3
Limestone gravel	8–25	GOST 8267-93	M400–M1000	F15–F400	<10%	И1–И1V	–
		TU 08.11.11-0002-00186855	M300	F15–F50	≤25%	И11	1.3
Limestone gravel	50–100	GOST 8267-93	M400–M1000	F15–F400	<10%	И1–И1V	–
		TU 08.11.20-0005-00186855	M300	F15–F50	≤25%	И111	1.3

* Depending on class

SECTION 2.17

Mineral wool

PRODUCTS

Product	Size, mm	Value	Crush ability grade	Bulk density, t/m³	Metal particle content, %	Sulphur content, %	Radionuclide content, Bq/kg
BF gravel	20–40	GOST 18866-93	M800–M1200	≥1	0	≤5	370
		Typical	M300	≥1.25	0.2	≤0.93	130
BF gravel	40–70	GOST 18866-93	M800–M1200	≥1	0	≤5	370
		Typical	M300	≥1.25	0.2	≤0.93	130
BF gravel	70–120	GOST 18866-93	M800–M1200	≥1	0	≤5	370
		Typical	M300	≥1.25	0.2	≤0.93	130

Recommended product

Product	Size, mm	Value	Magnesium oxide mass fraction, %	Insoluble residue, mass %	Radionuclide content, Bq/kg
DF-grade dolomite	3–15	GOST n/a	–	–	–
		STO 00186861-003	≥17	≤5	370
		Typical	≥17.3	≤4.2	9.3
DF-grade dolomite	5–25	GOST n/a	–	–	–
		STO 00186861-003	≥17	≤5	370
		Typical	≥17.3	≤4.2	9.3
DO-grade dolomite	20–50	GOST n/a	–	–	–
		STO 00186861-003	≥17	≤5	370
		Typical	≥17.3	≤4.2	9.3
DO-grade dolomite	30–70	GOST n/a	–	–	–
		STO 00186861-003	≥17	≤5	370
		Typical	≥17.3	≤4.2	9.3

SECTION 2.18

Glass containers

PRODUCTS

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	A	A
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	91.17
Calcium oxide mass fraction, %	–	30.90
Magnesium oxide mass fraction, %	–	17.74
SiO_2, %	–	4.32
R_2O_3, %	–	0.80
Particle size distribution, %		
>5 mm	0	0
>3 mm	≤3	0
>1 mm	≤15	0.03
Moisture mass fraction, %		
October–March	≤1.5	0.31
April–September	≤1.5	0.31

Recommended product

SECTION 2.19

Ceramic tile and modified dry construction mixtures

PRODUCTS

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	A	A
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	91.17
Calcium oxide mass fraction, %	–	30.90
Magnesium oxide mass fraction, %	–	17.74
SiO_2, %	–	4.32
R_2O_3, %	–	0.80
Particle size distribution, %		
>5 mm	0	0
>3 mm	≤3	0
>1 mm	≤15	0.03
Moisture mass fraction, %		
October–March	≤1.5	0.31
April–September	≤1.5	0.31

Recommended product

SECTION 2.20

Concrete and asphalt concrete filler

PRODUCTS

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	A	A
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	91.17
Calcium oxide mass fraction, %	–	30.90
Magnesium oxide mass fraction, %	–	17.74
SiO_2, %	–	4.32
R_2O_3, %	–	0.80
Particle size distribution, %		
>5 mm	0	0
>3 mm	≤3	0
>1 mm	≤15	0.03
Moisture mass fraction, %		
October–March	≤1.5	0.31
April–September	≤1.5	0.31

Recommended product

SECTION 2.21

Raw material additive for metallurgical processing

PRODUCTS

Product	Size, mm	Value	Magnesium oxide mass fraction, %	Silicon oxide mass fraction, %	Total mass fraction of iron and aluminium oxides, %	Insoluble residue, mass %
DF-grade dolomite	10–90	GOST n/a	–	–	–	–
		STO 00186861-003	≥17	–	–	≤5
DF-grade dolomite	5–60	GOST n/a	–	–	–	–
		STO 00186861-003	≥17	–	–	≤5
DO-grade dolomite	20–50	GOST n/a	–	–	–	–
		STO 00186861-003	≥17	≤4	≤2	–

Recommended product

SECTION 2.22

Iron ore concentrate

PRODUCTS

Product	Size, mm	Value	Total mass fraction of calcium and magnesium oxides, %	Calcium oxide mass fraction, %	Mass fraction over 15 mm, %
Limestone dust	0–15	GOST n/a	–	–	–
		TU 23. 52. 10-0081-05757665	≥65	≥50	15

Recommended product

SECTION 2.23

Sinter

PRODUCTS

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	C	C
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	90.50
Calcium oxide mass fraction, %	–	31.95
Magnesium oxide mass fraction, %	–	17.50
SiO_2, %	–	2.40–5.00
R_2O_3, %	–	0.90
Particle size distribution, %		
>5 mm	≤5	0
>3 mm	≤20	≤20
>1 mm	≤40	≤40
Moisture mass fraction, %		
October–March	≤6	≤6
April–September	≤12	≤12

Recommended product

SECTION 2.24

Sugar

PRODUCTS

Product	Size, mm	Value	Calcium oxide mass fraction, %	Hydrochloric acid-insoluble substance content, mass %	Total mass fraction of aluminium and iron sesquioxides, %	Magnesium carbonate mass fraction, %	Calcium sulphate mass fraction, %
Limestone	50–100	GOST n/a	–	–	–	–	–
		TU 08.11.20-0004-00186855	≥93	≤3	≤1.5	≤3	≤0.15

Recommended product

SECTION 2.25

Compound fertilizer

PRODUCTS

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	A	A
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	91.17
Calcium oxide mass fraction, %	–	30.90
Magnesium oxide mass fraction, %	–	17.74
SiO_2, %	–	4.32
R_2O_3, %	–	0.80
Particle size distribution, %		
>5 mm	0	0
>3 mm	≤3	0
>1 mm	≤15	0.03
Moisture mass fraction, %		
October–March	≤1.5	0.31
April–September	≤1.5	0.31

Recommended product

SECTION 2.26

Ameliorate

PRODUCTS

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	C	C
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	90.50
Calcium oxide mass fraction, %	–	31.95
Magnesium oxide mass fraction, %	–	17.50
SiO_2, %	–	2.40–5.00
R_2O_3, %	–	0.90
Particle size distribution, %		
>5 mm	≤5	0
>3 mm	≤20	≤20
>1 mm	≤40	≤40
Moisture mass fraction, %		
October–March	≤6	≤6
April–September	≤12	≤12

Recommended product

SECTION 2.27

Compound feed

PRODUCTS

Dolomite powder	Value	
	GOST 14050-93	Typical
Grade	A	A
Class	2	2
Total mass fraction of calcium and magnesium carbonates, %	≥80	91.17
Calcium oxide mass fraction, %	–	30.90
Magnesium oxide mass fraction, %	–	17.74
SiO_2, %	–	4.32
R_2O_3, %	–	0.80
Particle size distribution, %		
>5 mm	0	0
>3 mm	≤3	0
>1 mm	≤15	0.03
Moisture mass fraction, %		
October–March	≤1.5	0.31
April–September	≤1.5	0.31

Recommended product

SECTION 3

Dimensional mix

BF GRAVEL

Standard	GOST 3344-83	GOST 3286-2014	GOST R 58770-2019	GOST 5578-2019	GOST 18866-93
Fractions	5–20; 20–40; 40–70; 0–40; 0–70	4–8; 8–16; 16–31.5; 22.4–31.5; 31.5–63; 31.5–45; 45–63	0–31.5–2; 0–63–2	5–20; 20–40	20–40; 40–70; 70–120
Crushability grade	M800–M1000	M800–M1000	M800–M1000	M600–M800	M300
Frost resistance grade	≥F150	≥F150	≥F150	F150	–
Soft grain content, %	2.9	2.9	2.9	2	–
Abrasion grade	ИІІ	ИІІ	ИІІ	–	–
Bulk density, t/m³	1.3	1.3	1.3	1.2	1.25
Group of crushed stone according to grain shape	–	–	–	2	–
Metal particle content, %	–	–	–	–	0.2
Sulphur content, %	–	–	–	–	≤0.93
Radionuclide content, Bq/kg	–	–	–	–	130

CRUSHED STEELMAKING SLAG

Standard	GOST 3344-83	GOST 3286-2014
Fractions	0–10; 0–5; 5–20; 10–20; 20–40; 40–70	4–8; 8–16; 16–31.5; 22.4–31.5
Crushability grade	M1000	M1000
Frost resistance grade	≥F50	≥F50
Soft grain content, %	2.8	2.8
Abrasion grade	ИІ	ИІ
Bulk density, t/m³	1.8	1.8

GRANULATED SLAG (SLAG SAND)

Standard	GOST 3344-83	GOST 3286-2014	GOST 3476-2019
Size	0–5	0–5	0–5
Filtration coefficient, m/day	≥15.5	≥15.5	
Fineness modulus, FM	2.5	2.5	2.5
Metal impurity content, %	0.85	0.85	–
Clay particle content, %	0	0	–
Bulk density, t/m³	1.1	1.1	–
Moisture content, %	–	–	8–11
Quality coefficient	–	–	1.45
Quantity of stonelike lumps, %	–	–	≤5

CRUSHED CONCRETE AND REINFORCED CONCRETE

Standard	TU 8.12.12-0103-05757665-2022
Fractions	0–5; 5–20; 20–40; 40–70
Crushability grade	M300
Frost resistance grade	F50
Soft grain content, %	5
Abrasion grade	ИІІІ
Bulk density, t/m³	1.3

IRON-BEARING ADDITIVES

Standard	TU 38.32.22-0032-05757665-2021			
Grade	Grade A	Grade B	Grade B (Improved)	Sludge from sludge pits
Iron oxide (Fe_2O_3+FeO) content, mass %	70	50	60	30
Moisture mass fraction, %	10–12	≤25	≤20	≤25

MICROSILICA

Standard	GOST 58894-2020	
Grade	Packaged microsilica (MK-85)	Densified microsilica (MKU-85)
Moisture mass fraction, %	≤0.42	≤0.42
Silicon oxide mass fraction, %	≥93.3	≥93.3
Loss on ignition mass fraction, %	≤1.79	≤1.79
Calcium oxide mass fraction, %	≤2.8	≤2.8
Specific surface area of condensed microsilica, m²/kg	≥12,000	≥12,000
Bulk density, kg/m³	152.6	550

IRON OXIDE

Standard	TU-14-106-340-89	
Production	NGOESS	GOESS
Iron oxide mass fraction, %	≥99.5	≥99.4
Mass fraction of water-soluble matter, %	≤0.57	≤0.48
Mass fraction of chloride, %	≤1.18	≤0.13
Oil absorption, g/100 g of iron oxide, %	≤44	≤38.8
Residue on 0.063 mesh sieve after wet sifting, maximum, %	≤0.52	≤0.50

GRANULATED SLAG ABRASIVE POWDER

Standard	TU 38.32.22-0112-05757665-2023		
Size	0.1–0.8	0.3–1.5	0.5–2.5
Moisture content, %	≤0.2	≤0.2	≤0.2
Mohs hardness	6	6	6
Bulk density, kg/m³	1100	1100	1100
Clay particle content, %	0	0	0

PIT SAND

Standard	TU 8.12.11-0002-00186826-2019
Size	0–5
Sand class by grain size	2
Fineness modulus, FM	1–2
Dustlike and clay particle content, %	≤5
Lumpy clay content, %	≤0.5
Bulk density, t/m³	1.5

CLAY AND LOAM

Standard	TU 8.12.22-0016-00186826-2020
Silicon dioxide mass fraction, %	61–71.5
Aluminium oxide mass fraction, %	10.7–14.6
Calcium oxide mass fraction, %	0.9–6.3
Moisture mass fraction, %	≤25

CHALK

Standard	TU 8.11.30-0007-00186826-2019
Moisture mass fraction, %	≤16
$CaCO_3$ + $MgCO_2$ expressed as $CaCO_3$, %	≥90
Iron(III) oxide,%	≤0.5
Substances insoluble in hydrochloric acid, %	≤5
Loam, clay and marl impurities, %	≤10

SLATE SAND

Standard	TU 8.12.12-0005-00186826-2019	
Size	0–20	20–60
Crushability grade	M1200	M1200
Frost resistance grade	F150	F150
Soft grain content, %	1.6	1.6
Abrasion grade	И1	И1
Bulk density, t/m³	1.8–2	1.8–2

DOLOMITE POWDE

Standard	GOST 14050-93	
Grade	A	C
Class	2	2
Nutrients ($CaCO_3$+$MgCO_3$), %	≥80	≥80
Calcium oxide (CaO), %	–	–
Magnesium oxide (MgO), %	–	–
SiO_2, %	–	–
R_2O_3, %	–	–
Particle size distribution, %		
>5 mm	0	0
>3 mm	≤3	≤20
>1 mm	≤15	≤40
Moisture mass fraction, %		
October–March	≤1.5	≤6
April–September	≤1.5	≤12

LIMESTONE PRODUCTS

	Limestone gravel	Process lime stone	Crushed limestone	Limestone dust	Beneficiation screening
Standard	TU 8.11.11-0002-00186855-2020	TU 8.11.20-0004-00186855-2021	TU 8.11.20-0005-00186855-2022	TU 23.52.10-0081-05757665-2021	TU 8.11.20-0006-00186855-2022
Size	5–20; 8–25; 50–100	50–100	50–100	0–15	0–20
Crushability grade	M300	–	M300	–	–
Frost resistance grade	F15–F50	–	F15–F50	–	–
Soft grain content, %	<25 %	–	<25 %	–	–
Abrasion grade	ИІІ	–	ИІІ	–	–
Bulk density, t/m³	1.3	–	1.3	–	–
Calcium oxide mass fraction, %	–	≥93	–	–	–
Hydrochloric acid-insoluble substance mass fraction, %	–	≤3	–	–	–
Aluminium and iron sesquioxide mass fraction, %	–	≤1.5	–	–	–
Magnesium carbonate mass fraction, %	–	≤3	–	–	–
Calcium sulphate mass fraction, %	–	≤0.15	–	–	–
Sum of calcium and magnesium oxides, %	–	–	–	≥65	–
Calcium oxide mass fraction, %	–	–	–	≥50	≥50
Mass fraction over 15 mm	–	–	–	≥15	
Silicon oxide mass fraction, %	–	–	–	–	≤6
Magnesium oxide mass fraction, %	–	–	–	–	0.5–1.5
Mass fraction of moisture, %	–	–	–	–	≤12
Dustlike and clay particle content, %	–	–	–	–	≤6.5

DOLOMITE PRODUCTS

	Dolomite gravel			DF-grade dolomite				DO-grade dolomite	
Standard	GOST 8267-93			STO 00186861-003-2019				STO 00186861-003-2019	
Size	5–20	20–40	40–70	3–15	5–25	10–90	5–60	20–50	30–70
Crushability grade	M400	M400	M400	–	–	–	–	–	–
Frost resistance grade	F50	F50	F50	–	–	–	–	–	–
Soft grain content, %	6.3	6.3	6.3	–	–	–	–	–	–
Abrasion grade	ИІІІ	ИІІІ	ИІІІ	–	–	–	–	–	–
Bulk density, t/m³	1.3	1.3	1.3	–	–	–	–	–	–
Dustlike and clay particle content, %	1.6	1.2	–	–	–	–	–	–	–
Group of crushed stone according to grain shape	15	15	–	–	–	–	–	–	–
Magnesium oxide mass fraction, %	–	–	–	≥17.3	≥17.3	≥17	≥17	≥17.3	≥17.3
Insoluble residue, mass %	–	–	–	≤4.2	≤4.2	≤5	≤5	≤4.2	4.2
Radionuclide content, Bq/kg	–	–	–	9.3	9.3	–	–	9.3	9.3
Silicon oxide mass fraction, %	–	–	–	–	–	–	–	≤4	–
Total mass fraction of iron and aluminium oxides, %	–	–	–	–	–	–	–	≤2	–

SECTION 4

Product technical properties

INDUSTRY-RELATED CRUSHED STONE

Nature of the material	Size	Crushability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³	Dustlike clay particle content mass, %	Group of crushed stone according to grain shape	Magnesium oxide mass fraction,%	Insoluble residue, mass, %	Radionuclide content, Bq/kg	Silicon oxide mass fraction, %	Total mass fraction of iron and aluminium oxides, %
BF gravel	0–5	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	5–20	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	20–40	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	40–70	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	0–40	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	0–70	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	70–120	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	4–8	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	8–16	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	16–31.5	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	22.4–31.5	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	31.5–63	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	31.5–45	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	45–63	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	0-31.5-2	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
	0-63-2	M800–M1000	F150	2.9	ИII	1.3	≤2	2	0	0	130	0	0
BOF crushed stone	0–10	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	0–5	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	5–20	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	10–20	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	20–40	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	40–70	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	4–8	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	8–16	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	16–31.5	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
	22.4–31.5	M1000	F50	2.8	ИI	1.8	≤2	–	0	0	130	0	0
Crushed stone made of crushed concrete	0–5	M300	F50	5	ИIII	1.3	–	–	–	–	–	–	–
	5–20	M300	F50	5	ИIII	1.3	–	–	–	–	–	–	–
	20–40	M300	F50	5	ИIII	1.3	–	–	–	–	–	–	–
	40–70	M300	F50	5	ИIII	1.3	–	–	–	–	–	–	–

NATURAL CRUSHED STONE

Nature of the material	Size	Crushability grade	Frost resistance grade	Soft grain content, %	Abrasion strength class	Bulk density, t/m³	Dustlike clay particle content mass, %	Group of crushed stone according to grain shape	Magnesium oxide mass fraction,%	Insoluble residue, mass, %	Radionuclide content, Bq/kg	Silicon oxide mass fraction, %	Total mass fraction of iron and aluminium oxides, %
Limestone gravel	5–20	M300	F50	25	ИII–ИIII	1.3	≤5	–	0.5–1.5	-	–	≤6	≤1.5
	8–25	M300	F50	25	ИII–ИIII	1.3	≤5	–	0.5–1.5	-	–	≤6	≤1.5
	50–100	M300	F50	25	ИII–ИIII	1.3	≤5	–	0.5–1.5	-	–	≤6	≤1.5
	0–15	-	–	25	–	–	≤5	–	0.5–1.5	-	–	≤6	≤1.5
	0–20	-	–	25	–	–	≤5	–	0.5–1.5	-	–	≤6	≤1.5
Dolomite gravel	5–20	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	20–40	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	40–70	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	3–15	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	5–25	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	10–90	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	5–60	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	20–50	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
	30–70	M400	F50	6.3	ИIII	1.3	≤1.6	15	≥17.3	≤4.2	9.3	≤4	≤2
Slate sand	0–20	M1200	F150	1.6	ИI	2	–	–	–	–	–	–	–
	20–60	M1200	F150	1.6	ИI	2	–	–	–	–	–	–	–

GRANULATED SLAG AND PIT SAND

Nature of the material	Size	Filtration coefficient, m/day	Fineness modulus, FM	Clay particle content, %	Bulk density, t/m³	Metal impurities, %	Moisture content, %	Quality coefficient	Quantity of stonelike lumps, %
Granulated slag (slag sand)	0–5	15.5	2.5	0	1.1	0.85	8–9	1.45	≤5
Granulated slag (abrasive powder)	0.1–0.8	15.5	–	0	1.1	0.85	0.2	1.45	≤5
	0.3–1.5	15.5	–	0	1.1	0.85	0.2	1.45	≤5
	0.5–2.5	15.5	–	0	1.1	0.85	0.2	1.45	≤5
Pit sand	0–5	1–2	1–2	0.5	1.5	–	–	–	–

SEDIMENTARY ROCKS

Nature of the material	Silicon dioxide mass fraction, %	Aluminium oxide mass fraction, %	Calcium oxide mass fraction, %	Moisture content, maximum, %	$CaCO_3 + MgCO_2$ in $CaCO_3$ equivalent, %	Iron oxide (III) mass fraction, %	Substances insoluble in hydrochloric acid, %	Loam, clay and marl impurities, %
Clay and loam	61–71.5	10.7–14.6	0.9–6.3	25	–	–	–	–
Chalk	–	–	–	16	≥90	≤0.5	≤5	≤10

MATERIALS FOR CONSTRUCTION MIXTURES

Nature of the material	Grade	Iron oxide (Fe_2O_3+FeO) content, mass %	Moisture content, mass %	Silicon oxide mass fraction, %	Mass Loss on ignition mass fraction, %	Calcium oxide mass fraction, %	Specific surface area of condensed microsilica, m^2/kg	Bulk density, kg/m^3
Iron-bearing additives	Grade A	70	10–12	-	–	–	–	–
	Grade B	50	≤25	–	–	–	–	–
	Grade B (improved)	60	≤20	–	–	–	–	–
	Sludge from sludge pits	40	≤25	–	–	–	–	–
Microsilica	MK-85	–	≤0.42	≥93.3	≤1.79	≤2.8	≥1200	152.6
	MKU-85	–	≤0.42	≥93.3	≤1.79	≤2.8	≥1200	550

MATERIALS FOR PIGMENTS

Nature of the material	Place of production	Iron oxide mass fraction, %	Mass fraction of water-soluble matters, %	Mass fraction of chloride, %	Oil absorption, g/100 g of iron oxide, %	Residue on 0.063 mesh sieve after wet sifting, %
Iron oxide	NGOESS	≥99.5	≤0.57	≤1.18	≤44	≤0.52
	GOESS	≥99.4	≤0.48	≤0.13	≤38.8	≤0.5

DOLOMITE POWDER

Grade	Class	Value	Total mass fraction of calcium and magnesium carbonates ($CaCO_3$ + $MgCO_3$), %	Calcium oxide (CaO),%	Magnesium oxide (MgO),%	SiO_2, %	R_2O_3, %	Particle size distribution, %			Moisture mass fraction, %	
								5 mm	3 mm	1 mm	October–March	April–September
A	2	GOST 14050-93	≥80	–	–	–	–	0	≤3	≤15	≤1.5	≤1.5
		Typical	91.17	30.9	17.74	4.32	0.8	0	0	0.03	0.31	0.31
C	2	GOST 14050-93	≥80	–	–	–	–	≤5	≤20	≤40	≤6	≤12
		Typical	90.5	31.95	17.5	2.40–5.00	0.9	0	≤20	≤40	≤6	≤12

NOTES

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