



Indian Minerals Yearbook 2022

(Part-III : Mineral Reviews)

61st Edition

LIMESTONE & OTHER CALCAREOUS MATERIALS

(ADVANCE RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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18 Limestone & Other Calcareous Materials

Limestone is a sedimentary rock composed mainly of calcium carbonate (CaCO_3) in the form of the mineral calcite. About 10% of sedimentary rocks are limestone and most cave systems are through limestone bedrock. The two most important constituents of limestone are calcite and dolomite. Limestone often contains magnesium carbonate, either as dolomite $\text{CaMg}(\text{CO}_3)_2$ or magnesite (MgCO_3) mixed with calcite. Such rocks are termed as 'dolomitic' or 'magnesian' limestone. Limestone altered by dynamic or contact metamorphism become coarsely crystalline and are referred to as 'marble' and 'crystalline limestone'. Other common varieties of limestone are 'marl', 'oolite' (oolitic limestone), shelly limestone, algal limestone, coral limestone, pisolitic limestone, crinoidal limestone, travertine, onyx, hydraulic limestone, lithographic limestone, etc. However, the limestone which is used by industries in bulk quantity is a bedded type sedimentary limestone.

Other calcareous material used by industry are 'limeshell', the thick calcareous shells of molluscs deposited in the form of beds as well as present in ancient lakes and shallow seas. "Marl", a lime-rich mud contains variable amounts of clays and silt.

A limestone rock which separates well along the stratification into a few centimetres thick slab is termed 'flagstone'. The dimensional limestone is used for building and ornamental stone.

RESERVES/RESOURCES

The total reserves/resources of limestone of all categories and grades as per NMI database based on UNFC system as on 1.4.2020 has been estimated at 2,27,589 million tonnes, of which 19,028 million tonnes (8%) are placed under Reserves category and 208,560 million tonnes (92%) are under Remaining Resources category. Karnataka is the leading State having 24% of the total resources followed by Andhra Pradesh (13%), Rajasthan (12%), Gujarat (10%), Meghalaya (10%), Telangana (7%), Chhattisgarh (5%) and Madhya Pradesh (4%). The remaining 15% is shared by

other states. Grade-wise, Cement grade (Portland) has leading share of about 68% followed by Unclassified grades (11%) and BF grade (6%). The remaining 15% is shared by various other grades [Table-1 (A)].

The total reserves/resources of marl of all categories and grades as per NMI database based on UNFC system as on 1.4.2020 has been estimated in Gujarat at 99.20 million tonnes of which 68.15 million tonnes (69%) are under Reserves category and 31.05 million tonnes (31%) are under Remaining Resources category [Table-1 (B)].

EXPLORATION & DEVELOPMENT

The exploration & development details, if any, are covered in the Review on "Exploration & Development" under "General Reviews".

PRODUCTION AND STOCKS

Limestone

The production of limestone in 2021-22 at 393 million tonnes increased by about 12.50% as compared to that of the previous year.

There were 689 reporting mines in 2021-22 as against 665 during the previous year. Thirty six mines, each producing more than 3 million tonnes per annum contributed 47 percent of the total production of limestone in 2021-22. The share of 21 mines, each in the production range of 2 to 3 million tonnes was 13% of the total production. 20% of the total production was contributed by 54 mines, each producing 1 to 2 million tonnes annually. The remaining 20% of the total production was reported by 578 mines and 7 associated mines during the year. Ten principal producers contributed about 54% of the total production. About 2.47% of the production. About 2.87% of the production was reported by Public Sector mines as against 2.48% in the previous year.

About 97% of the total production of limestone during 2021-22 was of Cement grade and remaining 3% by other grades (Tables-2 to 6).

Rajasthan was the leading producing State

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 1(A) : Reserves/Resources of Limestone as on 01.04.2020 (P)
(By Grades/States)

Grade/State	Reserves				Remaining Resources						Total Resources (A+B)		
	Proved STD111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Measured STD331	Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)
		STD121	STD122			STD221	STD222						
All India: Total	14701910	1065305	3261256	19028470	7665106	6442697	9261072	7528921	32250068	135833401	9579524	208560789	227589259
By Grades													
Chemical	146938	24096	83801	254835	193447	136909	614181	49055	1852736	2334325	17172	5197825	5452660
S.M.S.(O.H.)	84202	544	18824	103570	37598	347821	750421	473258	872586	2351376	12338	4845398	4948968
S.M.S.(L.D.)	27026	64	289	27379	4535	107078	11723	6933	218226	240547	2202	591243	618622
S.M.S.(O.H. & L.D. mixed)	143912	-	-	143912	-	-	-	-	69460	167182	-	236642	380554
B.F.	447043	17379	282224	746646	236231	423320	345685	513408	941805	10947453	18551	13426453	14173099
S.M.S. & B.F. mixed	5579	6543	9459	21580	18093	15425	99785	15303	139338	712250	240733	1240926	1262506
Cement (portland)	13072953	940605	2699398	16712957	6584396	5046475	6977585	5557939	17983254	89232763	8258746	139641159	156354115
Cement (white)	27140	-	866	28006	2132	7949	3629	-	27225	5862	-	46798	74804
Cement (portland & white)	29172	-	26239	55411	14126	7694	67824	338670	60000	516850	39000	1044164	1099575
Cement (blendable beneficiable)	479513	3638	105356	588507	284744	204927	198066	75132	2699758	3432109	156607	7051343	7639850
B.F. & cement mixed	6583	-	13281	19864	36032	26131	35249	485	479069	40442	-	617408	637273
S.M.S., chemical & paper	182	-	-	182	1732	2174	1329	-	-	1228344	517	1234096	1234278
Paper	53899	-	2375	56274	41846	-	3164	125453	27073	643601	-	841137	897411
Blendable (CaO 34-38%)	-	-	-	-	6641	6730	2762	39760	310215	113006	404770	883884	883884
Others	43886	2312	2516	48714	34178	32246	35476	64646	558849	2687647	27316	3440357	3489071
Unclassified	105382	54583	5127	165092	116840	65050	94908	224091	5666344	19835715	380040	26382988	26548080
Not-known	28500	15540	11502	55542	52535	12767	19286	44789	344129	1343930	21532	1838969	1894511
By States													
Andhra Pradesh	2815170	2133	439387	3256690	1302360	404217	1164592	115264	2129536	1866740	3399422	26582132	29838822
Arunachal Pradesh	-	-	-	-	-	-	-	-	49220	433575	1	482796	482796
Assam	23442	-	164687	188130	170039	27593	100319	67000	39859	1278730	-	1683540	1871670
Bihar	11807	-	-	11807	3388	2558	1675	67926	135740	772343	10558	994188	1005995
Chhattisgarh	1364595	65530	56227	1486351	1658144	903350	298720	1456579	1778018	5630057	-	11724867	13211218
Daman & Diu	-	-	-	-	-	-	-	-	-	128670	-	128670	128670
Gujarat	722663	115984	64467	903115	507311	254583	176439	79919	2593098	18317659	160	21929169	22832284

(contd)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table-1(A) (concl'd)

Grade/State	Reserves				Remaining Resources								Total Resources (A+B)
	Proved STD111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334	Total (B)	
		STD121	STD122			STD221	STD222						
Haryana	-	-	-	-	1425	15507	3382	-	2200	52163	-	74677	74677
Himachal Pradesh	696165	249863	75984	1022012	78403	653158	21105	1529950	5079	3295168	14271	5597134	6619146
*Jammu & Kashmir	156757	15852	12881	185490	122422	45566	58608	67456	26704	1703261	218054	2242071	2427561
Jharkhand	6780	3512	395	10687	74071	50565	11535	91922	13220	356962	11803	610078	620765
Karnataka	1766001	2013	503208	2271221	584131	522239	778646	1776165	15091800	35135248	11008	53899236	56170457
Kerala	10475	-	65	10540	123286	103	-	21161	2888	36622	-	184059	194599
Madhya Pradesh	1252455	128972	311004	1692431	772476	342790	1119260	498580	791417	4128019	308205	7960747	9653178
Maharashtra	528636	137773	34940	701349	765567	235543	126780	69286	681879	1220928	7060	3107044	3808392
Manipur	-	-	-	-	-	-	-	10197	2138	33718	-	46053	46053
Meghalaya	133298	50979	66766	251043	57639	104791	16452	697286	4167752	17819716	720309	23583945	23834988
Nagaland	-	-	-	-	825	-	-	-	1005500	745875	-	1752200	1752200
Odisha	388084	67346	13150	468580	156898	456006	260485	139924	239877	435449	38785	1727424	2196004
Puducherry	-	-	-	-	-	-	-	4433	4333	6966	-	15732	15732
Rajasthan	3299838	220062	1284254	4804154	454148	1838217	4541298	441902	2261727	12946106	1673697	24157095	28961249
Sikkim	-	-	-	-	-	-	-	-	-	2380	-	2380	2380
Tamil Nadu	537272	3836	5915	547024	317801	239742	120594	95885	114647	687457	900	1577025	2124049
Telangana	984751	1450	227926	1214127	509737	142386	299243	118735	893077	11342869	3132280	16438327	17652454
Uttar Pradesh	3720	-	-	3720	-	111910	101510	142763	40000	43540	-	439723	443443
Uttarakhand	-	-	-	-	5035	91872	60429	29486	164879	1191059	33011	1575771	1575771
West Bengal	-	-	-	-	-	-	-	7104	15482	22120	-	44706	44706

Figures rounded off
 * Notified as Union Territory and is to be known as Union Territory of Jammu & Kashmir comprising the territory of the existing State of Jammu & Kashmir (Gazette Notification No. 53, New Delhi, Friday, August 9, 2019)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 1 (B) : Reserves/Resources of Marl as on 01.04.2020
(By Grades/States)

(In tonnes)

Grade/State	Reserves			Remaining Resources					Total Resources (A+B)		
	Proved STD111	Probable STD121 STD122	Total (A)	Feasibility STD211	Pre-feasibility STD221 STD222	Measured STD331	Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)
All India : Total By Grade	50825000	17210000	110000	68145000	26474477	4189000	-	390000	-	31053477	99198477
Unclassified	50825000	17210000	110000	68145000	26474477	4189000	-	390000	-	31053477	99198477
By State											
Gujarat	50825000	17210000	110000	68145000	26474477	4189000	-	390000	-	31053477	99198477

Figures rounded off

LIMESTONE AND OTHER CALCAREOUS MATERIALS

accounting for (22%) of the total production of limestone, followed by Madhya Pradesh and Andhra Pradesh (13%), Chhattisgarh (11%), Karnataka (10%), Telangana (7%), Tamil Nadu (5%), Gujarat (6%) and the remaining 13% was contributed by Assam, Bihar, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Meghalaya, Odisha and Uttar Pradesh.

Mine-head closing stocks of limestone for the year 2020-21 was 24.19 million tonnes and for the year 2021-22 is 27.24 million tonnes.

Average daily labour employment in limestone mines in 2021-22 was 19,464 as against 20,470 in the previous year.

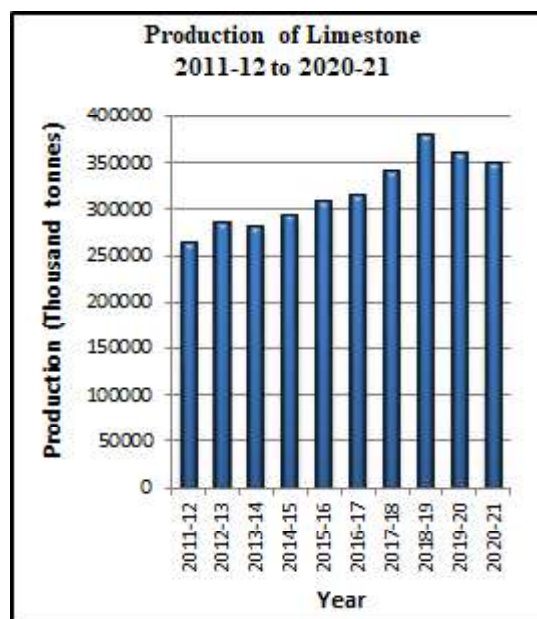
Table – 2 : Principal Producers of Limestone, 2021-22

Name and address of producer	Location of mine	
	State	District
UltraTech Cement Ltd, 'B' Wing, Ahura Centre, 2 nd Floor, Mahakali Caves Road, Andheri (E) Mumbai-400 093, Maharashtra	Andhra Pradesh Chhattisgarh Gujarat Himachal Pradesh Karnataka Madhya Pradesh	Kurnool Baloda Bazar Raipur Amreli Bhavnagar Solani
	Maharashtra Rajasthan	Gulbarga Dhar Neemuch Rewa Satna Sidhi katni
	Tamil Nadu	Chandrapur Chittorgarh Jaipur Nagaur Pali
	Uttar Pradesh	Ariyalur Perambalur Sonbhadra
Shree Cement Ltd, Post Box No. 33, Bangur Nagar, Beawar – 305 901, Rajasthan.	Andhra Pradesh Chhattisgarh Karnataka Rajasthan	Guntur Raipur Gulbarga Ajmer Jhunjhunu Pali
Ambuja Cement Ltd, Elegant Business Park, MIDC Cross Road B Off Andheri Kurla Road, Andheri-(East), Mumbai – 400 059 Maharashtra	Chhattisgarh Gujarat Himachal Pradesh Maharashtra Rajasthan	Baloda Bazar Raipur Junagadh Solani Chandrapur Nagpur Pali
The ACC Ltd, Cement House, 121, Maharshi Karve Road, Mumbai – 400 020, Maharashtra	Chhattisgarh Himachal Pradesh Jharkhand Karnataka Madhya Pradesh Maharashtra	Bilaspur Durg Bilaspur Singhbhum (W) Gulbarga Katni Yavatmal

(contd)

Table - 2 (contd)

Name and address of producer	Location of mine	
	State	District
	Odisha Rajasthan	Bargarh Bundi
Dalmia Cement (Bharat) Ltd, Dalmiapuram, Main Road, Kallakudi Lalgudi, Thiruchirapalli-621 651, Tamil Nadu	Andhra Pradesh Karnataka Meghalaya Madhya Pradesh Odisha Tamil Nadu	Cuddapah Belgaum Jaintia Hills Satna Sundargarh Ariyalur Tiruchirapalli
J.K.Cement Ltd. Kamla Tower, Kanpur-208 001 Uttar Pradesh	Karnataka Rajasthan	Bagalkot Chittorgarh Nagaur
The Ramco Cement Ltd, 5 th Floor, Auras Corporate Centre,98-A, Dr Radhakrishanan Salai, Mylapore,Chennai.- 600 004, Tamil Nadu	Andhra Pradesh Karnataka Tamil Nadu	Krishna Kurnool Chitradurga Ariyalur Perambalur Thoothukudi Virudhunagar Ariyalur
J.K. Lakshmi Cement Ltd, 4 th Floor, Nehru House 4, Bahadur Sah Zafar Marg, New Delhi-110 002	Chhattisgarh Rajasthan	Durg Siroho
Chettinad Cement Corporation Ltd, House of Chettinad Raniseethai Hall, 5 th Floor 603, Anna Salai Chennai-600006	Andhra Pradesh Karnataka Tamil Nadu	Guntur Gulbarga Ariyalur Dindigul Karur Perambalur
Wonder Cement Limited., 17, Old Fetahpura Near Seva Mandir Udaipur-313004 Rajasthan--313004	Rajasthan	Chittorgarh



LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 3 : Production of Limestone, 2019-20 to 2021-22
(By States)**

(Qty in '000 tonnes; Value in ₹'000)

State	2019-20		2020-21		2021-22 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	359464	88890081	349120	86484948	392760	97349550
Andhra Pradesh	42532	9267248	41148	8685149	50260	10444417
Assam	1552	500950	1552	469810	1681	537696
Bihar	556	263446	1000	301961	987	367151
Chhattisgarh	42699	10200663	40378	10139974	41888	11009962
Gujarat	22868	5204303	22227	5080904	23543	4959400
Himachal Pradesh	12527	2746801	12018	2618878	13710	2966412
Jammu & Kashmir*	959	280284	1175	300656	1156	354825
Jharkhand	785	339164	324	233245	72	35005
Karnataka	34165	6672035	33188	6095069	39405	7611350
Kerala	398	342144	376	331191	379	345424
Madhya Pradesh	47118	12332360	46099	12879609	50140	14782552
Maharashtra	14614	3475512	13943	3476065	15757	3869717
Meghalaya	7248	2988280	6029	2689713	6399	2872708
Odisha	5627	1848621	7186	2118507	7059	2410646
Rajasthan	72390	19094468	74266	19449722	87679	22220563
Tamil Nadu	24461	7151088	21144	5813723	21334	6265788
Telangana	26161	5249950	24493	4904676	28502	5620487
Uttar Pradesh	2804	932764	2574	896096	2809	675447

*Formed a new Union Territory to be known as the Union Territory of Jammu and Kashmir comprising the territory of the existing state of Jammu & Kashmir vide Gazette Notification No. 53, New Delhi, Friday, August 9, 2019/Shravana 18, 1941 (SAKA).

**Table – 4 : Production of Limestone, 2020-21 and 2021-22
(By Frequency Groups)**

Production group (In tonnes)	No. of mines		Production for the group (‘000 tonnes)		Percentage in total production		Cumulative percentage	
	2020-21	2021-22 (P)	2020-21	2021-22 (P)	2020-21	2021-22 (P)	2019-20	2020-21 (P)
All Groups	665(4)	689(5)	349120	392760	100	100	-	-
Up to 10000	226(3)	230(4)	332	343	0.10	0.09	0.01	0.09
10001-50000	108	102	3037	2951	0.87	0.75	0.97	0.84
50001-100000	61	79	4445	5750	1.27	1.46	2.24	2.30
100001-200000	52(1)	48(1)	7602	7305	2.18	1.86	4.42	4.16
200001-300000	31	26	7827	6512	2.24	1.66	6.66	5.82
300001-400000	23	20	8011	7278	2.29	1.85	8.95	7.67
400001-500000	15	24	6996	10880	2.00	2.77	10.95	10.44
500001-600000	8	9	4468	5061	1.28	1.29	12.23	11.73
600001-700000	8	13	5312	8525	1.52	2.17	13.75	13.90
700001-800000	9	10	6831	7643	1.96	1.95	15.71	15.85
800001-900000	11	8	9526	6722	2.73	1.71	18.44	17.56
900001-1000000	11	9	10551	8767	3.02	2.23	21.46	19.79
1000001-2000000	49	54	68520	78795	19.63	20.06	41.09	39.85
2000001-3000000	27	21	67999	52717	19.48	13.42	60.57	53.27
3000001 & above	26	36	137663	183511	39.43	46.73	100	100

Figure in parenthesis indicates mines of chalk, dolomite & shale with limestone as an associate mineral.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table -5 : Production of Limestone, 2020-21 & 2021-22
(By Sectors/States/Districts/Grades)

State/District	2020-21						2021-22 (P)					
	Grades			Total			Grades			Total		
	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value
India	665(6)	339449	7174	2497	349120	86484948	689(7)	381294	9347	2119	392760	97349550
Public Sector	24	5409	3259	-	8668	3509259	19	6999	4272	-	11271	5007428
Private Sector	641(6)	334040	3915	2497	340452	82975689	670(7)	374295	5075	2119	381489	92342122
Andhra Pradesh	68(1)	40665	483	-	41148	8685149	72(1)	49685	575	-	50260	10444417
Anantapur	8	4339	15	-	4354	860178	9	5192	9	-	5201	982310
Cuddapah	6	10301	-	-	10301	2051805	6	12103	-	-	12103	2476086
Guntur	13	4360	-	-	4360	831792	12	5424	-	-	5424	1067576
Krishna	10	9627	236	-	9863	2590794	10	11921	300	-	12221	3016235
Kurnool	31(1)	12038	232	-	12270	2350580	35(1)	15045	266	-	15311	2902210
Assam	2	1552	-	-	1552	469810	2	1681	-	-	1681	537696
Karbi Anglong	1	131	-	-	131	44867	1	188	-	-	188	64063
North Cachar Hills	1	1421	-	-	1421	424943	1	1493	-	-	1493	473633
Bihar	1	1000	-	-	1000	301961	1	987	-	-	987	367151
Rohtas	1	1000	-	-	1000	301961	1	987	-	-	987	367151
Chhattisgarh	57	39925	453	-	40378	10139974	68	40983	905	-	41888	11009962
Baloda Bazar	3	5919	-	-	5919	1246777	4	7161	-	-	7161	1627249
Bastar	10	35	++	-	35	12658	10	2	++	-	2	823
Bilaspur	2	130	240	-	370	165784	3	232	627	-	859	342913
Durg	21	6858	213	-	7071	1925455	30	7014	278	-	7292	2162587
Janjgir-Champa	2	1464	-	-	1464	445670	2	1604	-	-	1604	478941
Kabirdham	1	20	-	-	20	12811	1	30	-	-	30	19051
Raipur	18	25499	-	-	25499	6330819	18	24940	-	-	24940	6378398
Gujarat	91(1)	19945	-	2282	22227	5080904	85(3)	21765	-	1778	23543	4959400
Amreli	2	3597	-	-	3597	763013	4	3611	-	-	3611	708884
Bhavnagar	2	210	-	-	210	72145	2	53	-	-	53	12422
Jamnagar	16	2040	-	267	2307	501474	20	1960	-	217	2177	481522
Junagadh	35	6460	-	953	7413	1678614	29	8075	-	868	8943	1900510
Kutch	3	5385	-	-	5385	1164058	3	5906	-	-	5906	1127687
Porbandar	30(1)	1884	-	1062	2946	793850	23(3)	1924	-	693	2617	636787

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LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table-5 (contd)

State/District	2020-21						2021-22 (P)					
	Grades			Total			Grades			Total		
	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value
Rajkot	2	99	-	-	99	18825	3	28	-	-	28	12629
Surat	1	270	-	-	270	88925	1	208	-	-	208	79009
Himachal Pradesh	22	11888	130	-	12018	2618878	23	13623	87	-	13710	2966412
Bilaspur	1	3085	-	-	3085	579895	1	4145	-	-	4145	852101
Sirmour	19	657	130	-	787	338730	20	854	87	-	941	384175
Solan	2	8146	-	-	8146	1700253	2	8624	-	-	8624	1730136
Jammu & Kashmir	18	1175	-	-	1175	300656	16	1156	-	-	1156	354825
Anantnag	8	-	-	-	-	-	7	-	-	-	-	-
Pulwama	7	646	-	-	646	147919	6	614	-	-	614	145080
Srinagar	3	529	-	-	529	152737	3	542	-	-	542	209745
Jharkhand	4	324	-	-	324	233245	4	72	-	-	72	35005
Ranchi	2*	-	-	-	-	-	2*	++	-	-	-	++
Singhbhum (West)	2	324	-	-	324	233245	2	72	-	-	72	35005
Karnataka	54(1)	32835	353	-	33188	6095069	54	39035	370	-	39405	7611350
Bagalkot	37	2919	325	-	3244	830920	34	3299	349	-	3648	978723
Belgaum	4	1858	28	-	1886	434104	6	2326	21	-	2347	541057
Chitradurga	1*	-	-	-	-	-	1*	-	-	-	-	-
Gulbarga	10(1)	28058	-	-	28058	4830045	11	33410	-	-	33410	6091570
Shimoga	1*	-	-	-	-	-	1*	-	-	-	-	-
Tumkur	1*	-	-	-	-	-	1*	-	-	-	-	-
Kerala	1	376	-	-	376	331191	1	379	-	-	379	345424
Palakkad	1	376	-	-	376	331191	1	379	-	-	379	345424
Madhya Pradesh 144(3)	42308	3689	102	-	46099	12879609	168(3)	45364	4684	92	50140	14782552
Damoh	1	3858	-	-	3858	883581	1	3883	-	-	3883	870234
Dhar	6	2819	-	-	2819	522457	13	3741	-	-	3741	706242
Jabalpur	1	-	29	-	29	11051	1	-	2	-	2	1317
Katni	52(3)	3665	2895	102	6662	2129731	59(3)	4377	3647	92	8116	2761570
Narasinhapur	1	-	28	-	28	5314	1	-	80	-	80	56859
Neemuch	3	3887	-	-	3887	695347	5	4178	-	-	4178	894048
Panna	-	-	-	-	-	-	1*	++	-	-	++	199
Rewa	10	3847	2	-	3849	1478513	10	3813	1	-	3814	1431710
Satna	66	21986	735	-	22721	6291250	73	23187	954	-	24141	6929425
Sidhi	4	2246	-	-	2246	862365	4	2185	-	-	2185	1130948

(contd)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table-5 (contd)

State/District	2020-21						2021-22 (P)					
	Grades			Total			Grades			Total		
	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value
Maharashtra	17	13943	++	++	13943	3476065	20	15757	++	-	15757	3869717
Chandrapur	5	10888	-	-	10888	2591866	7	11493	-	-	11493	2474836
Yavatmal	12	3055	++	-	3055	884199	13	4264	++	-	4264	1394881
Meghalaya	19	6029	-	-	6029	2689713	16	6399	-	-	6399	2872708
Jaintia Hills	16	3796	-	-	3796	1169489	14	3922	-	-	3922	1170179
Khasi Hills East	3	2233	-	-	2233	1520224	2	2477	-	-	2477	1702529
Odisha	7	7186	+	-	7186	2118507	7	6993	66	-	7059	2410646
Bargarh	1	841	-	-	841	435886	1	958	-	-	958	514376
Koraput	1	172	-	-	172	51704	1	183	-	-	183	55058
Sundargarh	5	6173	18	-	6173	1630917	5	5852	66	-	5918	1841212
Rajasthan	39	72125	2028	113	74266	19449722	41	84729	2638	249	87679	22220563
Ajmer	2	2341	-	-	2341	550969	2	2337	-	-	2337	606728
Banswara	1	1084	-	-	1084	254656	1	1277	-	-	1277	301582
Bundi	1	1041	-	-	1041	299886	1	1071	-	-	1071	369064
Chittorgarh	11	29173	-	-	29173	7503303	11	34240	-	-	34240	8029329
Jaipur	1	3901	-	-	3901	1283521	1	4697	-	-	4697	1424535
Jaisalmer	2	589	2028	-	2617	1249027	2	1065	2638	-	3703	2035163
Jhunjhunu	1	-	-	-	-	-	1*	++	-	-	-	120
Kota	1	2578	-	-	2578	641856	1	3169	-	-	3169	798599
Nagaur	7	1157	-	113	1270	566906	9	3488	-	249	3737	1283422
Pali	6	18310	-	-	18310	3781328	6	19130	-	-	19130	4096204
Sikar	1*	++	-	-	-	47	1	2	-	-	2	913
Sirohi	3	10425	-	-	10425	2929091	3	12438	-	-	12438	2798957
Udaipur	2	1526	-	-	1526	389132	2	1878	-	-	1878	475884
Tamil Nadu	89	21107	37	-	21144	5813723	78	21313	21	-	21313	6265788
Ariyalur	38	11288	37	-	11325	2747043	37	11419	21	-	11419	2955836
Coimbatore	4	-	-	-	-	-	-	-	-	-	-	-
Dindigul	4	2544	-	-	2544	713104	4	2490	-	-	2490	825475
Karur	1	529	-	-	529	149645	1	633	-	-	633	218485
Perambalur	17	2576	-	-	2576	706756	16	2207	-	-	2207	652706
Salem	3	479	-	-	479	237120	3	524	-	-	524	162005

(contd)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table-5 (concl'd)

State/District	2020-21						2021-22 (P)					
	Grades			Total			Grades			Total		
	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value	No. of mines	Cement	LD, SMS & BF	Chemical	Qty	Value
Thoothukudi (Tuticorin)	4	1070	-	-	1070	575739	5	1091	-	-	1091	584904
Tiruchirapalli	9	2317	-	-	2317	525936	9	2501	-	-	2501	585054
Tirunelveli	3	-	-	-	-	-	2	160	-	-	160	127493
Virudhunagar	6	304	-	-	304	158380	1	288	-	-	288	149830
Telangana	30	24493	-	-	24493	4904676	31	28502	-	-	28502	5620487
Adilabad	2	2950	-	-	2950	583275	3	3480	-	-	3480	748259
Karimnagar	2	957	-	-	957	347573	2	1300	-	-	1300	541750
Nalgonda	22	16676	-	-	16676	3220595	22	18715	-	-	18715	3379762
Rangareddy	4	3910	-	-	3910	753233	4	5007	-	-	5007	950716
Uttar Pradesh	2	2574	-	-	2574	896096	2	2809	-	-	2809	675447
Sonbhadra	2	2574	-	-	2574	896096	2	2809	-	-	2809	675447

(++) : Negligible

() : Figure in parenthesis indicates mines of chalk, dolomite and shale with limestone as an associate mineral.

(*) Only labour reported.

** Formed a new Union Territory to be known as the Union Territory of Jammu and Kashmir comprising the territory of the existing state of Jammu & Kashmir vide Gazette Notification No. 53, New Delhi, Friday, August 9, 2019/Shravana 18, 1941 (SAKA).

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 6 : Mine-head Closing Stocks of Limestone, 2020-21 & 2021-22
(By States/Grades)**

(In '000 tonnes)

State	2020-21				2021-22 (P)			
	Grades				Grades			
	Cement	LD, SMS & BF	Chemical	Total	Cement	LD, SMS & BF	Chemical	Total
India	19788	2919	1488	24195	22658	3257	1327	27242
Andhra Pradesh	302	105	6	413	227	114	-	341
Assam	21	-	-	21	21	-	-	21
Chhattisgarh	2498	146	-	2644	2381	328	-	2709
Gujarat	1239	-	1348	2587	1529	-	1240	2769
Himachal Pradesh	188	49	-	237	517	13	-	530
Jammu & Kashmir*	226	-	-	226	82	-	-	82
Jharkhand	16	-	-	16	16	++	-	16
Karnataka	2698	628	-	3326	3112	554	-	3666
Kerala	1	-	-	1	1	-	-	1
Madhya Pradesh	4769	1230	51	6050	5484	1585	23	7092
Maharashtra	83	6	++	89	677	1	-	678
Meghalaya	132	-	-	132	71	-	-	71
Odisha	310	413	-	723	408	475	-	883
Rajasthan	5979	221	83	6283	6859	78	64	7001
Tamil Nadu	899	121	++	1020	916	109	++	1025
Telangana	427	-	-	427	357	-	-	357

++: Negligible

*Formed a new Union Territory to be known as the Union Territory of Jammu and Kashmir comprising the territory of the existing state of Jammu & Kashmir vide Gazette Notification No. 53, New Delhi, Friday, August 9, 2019/Shravana 18, 1941 (SAKA).

Limeshell

The production of limeshell is nil during 2021-22 compared to 4600 tonnes in the preceding year.

There were nil reporting mines in 2021-22 as compared to 2 reporting mines in 2020-21.

Mine-head closing stocks of limeshell in the year 2021-22 was 591 tonnes as against 608 tonnes in the previous year.

The average daily employment of labour during the year 2021-22 was nil as against 244 in the previous year (Tables-7 to 9).

**Table – 7 : Production of Limeshell, 2019-20 to 2021-22
(By States)**

(Qty in tonnes; Value in ₹'000)

State	2019-20		2020-21		2021-22 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	4600	18730	-	-	100	220
Karnataka	1017	3051	-	-	100	220
Kerala	3538	15679	-	-	-	-

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 8 : Production of Limeshell, 2020-21 & 2021-22
(By Sectors/States/Districts)**

(Qty in tonnes; Value in ₹'000)

State/District	2020-21			2021-22 (P)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	-	-	-	1	100	220
Public sector	-	-	-	-	-	-
Private sector	-	-	-	1	100	220
Karnataka	-	-	-	1	100	220
North Kannada	--	-	-	1	100	220
Kerala	-	-	-	-	-	-
Kottayam	-	-	-	-	-	-

**Table – 9 : Mine-head Closing Stocks of Limeshell, 2020-21 & 2021-22
(By States)**

(In tonnes)

State	2020-21	2021-22 (P)
India	608	591
Karnataka	608	591

Marl

Production of marl during 2021-22 was 1,853 thousand tonnes as compared to 2,216 thousand tonnes in the preceding year. The entire production of marl was reported as an associated mineral with limestone in both the years. There were 9 associate mines reporting production of marl during 2021-22 as

compared to 8 associate mines in the previous year. The entire production was reported by Private Sector mines. Entire production of marl during 2021-22 was reported from Gujarat and Tamil Nadu. Mine-head closing stock at the end of 2021-22 was 468 thousand tonnes as against 600 thousand tonnes in the previous year (Tables-10 to 13).

Table – 10 : Principal Producers of Marl, 2021-22

Name and address of producer	Location of mine	
	State	District
*The Ramco cements Ltd, 3rd floor, Auras corporate, Centre-98A, Dr. Radhakrishnan, Salai, Malypore Chennai-600 004	Tamil Nadu	Aryalur
*Ultra Tech Cement Ltd, B-Wing, 2 nd Floor, Ahura Centre, Mahakali Caves Road, Andheri (E), Mumbai- 400 093.	Gujarat	Amreli
*Saurashtra Cement Ltd, N.K. Mehta International House, 178, Backbay Reclamation, Mumbai-400 020.	Gujarat	Porbandar
*Chettinad Cement Corpn. Ltd, 4 th floor, Rani Seethai Hall Building, 603, Anna Salai Chennai-600 006	Tamil Nadu	Aryalur
*Gujrat Sidhee Cement Ltd N.K. Mehta International House, 178, Backbay Reclamation, Mumbai-400 020.	Gujarat	Jamnagar

*Producing as an associated mineral with limestone

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 11 : Production of Marl, 2019-20 to 2021-22(p)
(By States)**

(Qty in tonnes, Value in ₹'000)

State	2019-20		2020-21		2021-22 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	2148854	412463	2216414	417184	1853481	326498
Gujarat	1646104	318711	1300333	243556	900560	133211
Tamil Nadu	502750	93752	916081	173628	952921	193287

**Table – 12 : Production of Marl, 2020-21 and 2021-22
(By Sector/States/Districts)**

(Qty in tonnes; Value in ₹'000)

State/District	2020-21			2021-22 (P)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	(9)	2216414	417184	(8)	1853481	326498
Private Sector	(9)	2216414	417184	(8)	1853481	326498
Gujarat	(5)	1300333	243556	(4)	900560	133211
Amreli	(2)	1211651	228179	(2)	532155	97161
Jamnagar	(1)	23049	2789	(1)	-	-
Junagadh	(1)	15733	3257	(1)	39130	8391
Porbandar	(1)	49900	9331	(1)	329275	27659
Tamil Nadu	(4)	916081	173628	(4)	952921	193287
Ariyalur	(4)	916081	173628	(4)	952921	193287

Figures in parentheses indicate associated mines with limestone

**Table – 13 : Mine-head Closing Stocks of Marl, 2020-21 & 2021-22
(By States)**

(Qty in tonnes)

State	2020-21	2021-22 (P)
India	600254	468771
Gujarat	381309	262383
Tamil Nadu	218945	206388

MINING & MARKETING

In India, limestone mines are worked by opencast method. Captive mines are mechanised and supply feed to cement and iron & steel units. Some mines have well-laid road-cum-rail routes. The large mines are developed by forming benches in overburden and limestone bed. The face length, width and height of the benches correspond to the mining machinery deployed and production schedule. Heavy earth-moving machinery like 3.3 to 4 cu.m capacity hydraulic excavators in combination with

10-35 tonnes dumpers are normally used. Other mines are mainly worked by semi-mechanised and manual opencast mining methods. As per MCDR reports, drilling is done by Jack hammer & Wagon drill and blasting is done by ANFO, Slurry explosives, emulsion explosives etc.

Limestone production from Kurnool, Andhra Pradesh and from Adilabad in Telangana is used in paper mills, sugar, cement and steel plants. Tile, mosaic, chip and polished stonemakers also use limestone.

Limestone produced in Bihar is supplied mainly to cement plants, foundries and lime kiln units.

In Raipur and Durg districts of Chhattisgarh, the limestone produced is suitable for Iron & Steel Industry. The Bhilai Steel Plant fulfills its requirements of limestone from Nandini mines in Durg district. The Cement-grade limestone is also produced in the region and there is large cluster of cement plants in and around Raipur.

Limestone produced in Gujarat is consumed mainly in cement and chemical industries and also in textile, foundries and steel plants. The dolomitic limestone in Gujarat is used for making slabs and tiles.

Limestone produced in Himachal Pradesh is supplied to cement plants, paper industry, sugar mills and lime kilns. The limestone production from Bilaspur district is despatched to fertilizer unit of National Fertilizers Ltd (NFL) at Naya Nangal.

Limestone produced in Jammu & Kashmir is suitable for cement manufacturing.

In Karnataka, limestone is supplied generally to paper mills and cement plants. However, limestone of Kalaburagi district, commonly known as 'Shahabad stones', is used as flagstone or flooring stones.

Limestone from Madhya Pradesh is used in cement, sugar, paper, steel and lime industries.

In Maharashtra, apart from cement and sugar industries, limestone is used in Ferromanganese Industry as flux and also in Tanning Industry.

Limestone mined in Rajasthan is consumed in captive cement plants on a large scale. Limestone of Nagaur district is utilised as feed for white cement plants as well as in steel plants as low silica SMS grade flux and in Chemical Industry. Crystalline limestone of Rajasthan is widely known as a decorative ornamental stone. The limestone worked in Bundi district and Raghunathgarh in Jaipur district is an excellent flagstone which find use as paving stone.

The limestone produced in Dehradun-Garhwal areas of Uttarakhand was supplied to Sugar, Paper, Steel, Glass, Chemical and Cement Industries in the past.

Limestone in Tamil Nadu is consumed by various industries like Cement, Steel, Paper, Foundry, Fertilizer and Chemicals.

Limeshell from Kerala is used mainly in Chemical, Cement and White cement Industries. It is also used in the manufacture of polyfibre and in Tanning Industry.

USES

Limestone used for industrial purpose falls under 'major mineral', while the use of limestone in lime kilns and for building purposes comes under 'minor mineral' as per Mines and Minerals (Development and Regulation) Act, 1957.

The threshold value of limestone as per the revised Notification issued by IBM vide No.C-284/3/CMG/2017 dated 25th April 2018 is CaO 34% (min.) and MgO 5% (max.).

The principal use of limestone is in the Cement Industry. Other important uses are as raw material in the manufacture of quicklime (calcium oxide), slaked lime (calcium hydroxide) and mortar. Pulverised limestone is used as a soil conditioner to neutralise acidic soils (agricultural lime). It is used in sculptures because of its suitability for carving. It is often found in medicines and cosmetics. In some circumstances, limestone is used for glass making. As a reagent in fuel-gas desulphurisation, it reacts with sulphur dioxide which enables air pollution control. It can suppress methane explosions in underground coal mines. It is added to toothpaste, paper, plastic, paint, tiles and other materials as both white pigment and cheap filler. In blast furnaces, limestone binds with silica and other impurities and facilitates their removal from iron.

Lime is prepared by heating limestone in kilns up to 1,000 °C. The CO₂ released is effluxed and 'quicklime' (CaO) formed remains as hard white lumps. This when slaked with water and mixed with sand, forms mortar or plaster. Commonly, the commercial lime is prepared as dry hydrated lime Ca(OH)₂ by adding to quicklime the right amount of water (18 parts to 56 parts of CaO). The value of lime for most purposes depends upon its CaO (or CaO + MgO) content.

The manufacture of metallic calcium is one of the latest uses of lime. Calcium is used in reducing organic compounds, desulphurising petroleum, debismuthising lead production of hard lead alloys and calcium-silicon alloys, and in the manufacture of calcium hydride which is further used as an efficient hydrogen carrier.

Limeshell is used mainly in Chemical and White Cement Industries. It is also used in the manufacture of polyfibre and in Tanning Industry. Marl is used as lithographic stone.

SPECIFICATIONS

Cement Industry

Cement is a binder, a substance used in construction that sets, hardens and adheres to other materials. Cement used in construction is usually inorganic, often lime or calcium silicate based. Magnesia, sulphur and phosphorus are regarded as deleterious elements. As per end use grade classification of IBM, it is mentioned that as reported by Cement Manufactures Association, limestone containing CaO 44 to 52% and MgO not more than 3.5% should be classified under Portland Cement. Limestone containing 38-44% CaO and up to 5% MgO should be placed under Blendable/Beneficiable Cement. Limestone containing CaO 48% (min.) should be placed under White Cement. The broad chemical specifications of Cement grade limestone (r.o.m.) for cement manufacture suggested by the National Council for Cement and Building Materials, New Delhi, are specified in Table-14.

Table – 14 : Broad Chemical Specifications of Cement Grade (Run-of-Mine) Limestone (Clause 6.1.1)

Oxide component/ Other Constituents	Acceptable range for manufacture of Ordinary Portland Cement (33, 43 & 53 Grade) (per cent)	Limiting values taking into con- sideration other types of cements, scope of beneficiation and blending (per cent)
CaO	44-52	40 (min.)
MgO	3.5 (max.)	5.0 (max.)
SiO ₂	To satisfy LSF, silica	–
Al ₂ O ₃	Modules and alumina	–
Fe ₂ O ₃	Modules	–
TiO ₂	<0.5	<1.0
Mn ₂ O ₃	<0.5	<1.0
R ₂ O (Na ₂ O + K ₂ O)	<0.6	<1.0
Total S as SO ₃	<0.6	<0.8
P ₂ O ₅	<0.6	<1.0
Cl	<0.015	<0.05
Free silica	<8.0	<10.0

Source: Report on Norm for limestone deposits for cement manufacture by National Council for Cement and Building Materials, New Delhi, May 2001

Iron & Steel Industry

In Iron & Steel Industry, limestone is used both in blast furnace and steel melting shop as a flux after calcining. It is also added as flux in self-fluxing iron ore sinters. It has two basic functions in steel making, first to lower the temperature of melting and second, to form calcium silicate which comes out as a slag, as it combines with silica in iron ore.

For use in the blast furnace, the calcium carbonate (CaCO₃) content in limestone should not be usually less than 90 per cent. The combined SiO₂ and Al₂O₃ should not exceed 6% though up to 11.5% is allowed, MgO should be within 4% and sulphur & phosphorus as low as possible.

In Steel Melting Shop (SMS), insolubles in limestone should not exceed more than 4 per cent. Good fluxing limestone should naturally be low in acid constituents like silica, alumina, sulphur and phosphorus. Limestone should be dense, massive, preferably fine-grained, compact and non-fritting on burning.

BIS has prescribed specifications for Flux grade limestone for use in steel plants as per IS : 10345 - 2004 (Second Revision; Reaffirmed 2023).

Glass Industry

Glass Industry requires high calcium limestone (94.5% CaCO₃) and 97.5% of combined CaCO₃ and MgCO₃. Iron and other colouring matters are regarded as objectionable and Fe₂O₃ should be up to 0.20% (max.). For colourless glass, limestone should contain 98.5% CaCO₃ (min.), iron content as Fe₂O₃ should not be more than 0.04%; and for bottle glass, Fe₂O₃ up to 0.05% is used. The BIS specifications (IS : 997 - 1973), First Amendment (Reaffirmed Oct. 2022) for limestone for use in Glass Industry are as follows:

Silica as SiO ₂	2.5%
Total iron (Fe ₂ O ₃)	
a) Calcite or marble	0.05%
b) Limestone	0.10%
c) Dolomitic limestone or dolomite	0.15%
Lime (as CaO)	53.0%
Total lime and magnesia (as CaO + MgO)	54.50%

Chemical Industry

The calcium carbide manufacturers generally prefer lime containing 95% CaO (min.) with limitations of not

more than 3% SiO₂, not more than 0.95% phosphorus and other impurities not exceeding more than 2%. For the manufacture of bleaching powder, lime containing 95% and above CaO is required. The total Fe₂O₃ + Al₂O₃ + MnO₂ should be less than 2%; MgO should be below 2%; and SiO₂ less than 1.5%. Bleaching powder is prepared by absorption of chlorine by dry hydrated lime. The hydrated lime should not contain more than 2% excess water. Iron and manganese oxides lead to unsuitability of the product and iron oxides tend to discolour the bleached material. Magnesia renders the bleaching powder hygroscopic. Silica and clay impede solution and settling of bleaching powder.

BIS has prescribed specification for limestone for use in Chemical Industry as per IS: 3204:1978 (First revision, March, 2020).

Sugar Industry

In Sugar Industry, lime is used for clarification of cane and beet juice, viz, removing the impurities from the juice and also for precipitating sugar from impurities. Milk of lime 1% in volume of cane juice is added to pre-heated juice. Limestone used in Sugar Industry must be high in active lime (CaO 80% min.), but low in iron, alumina and silica. Magnesia should be less than one per cent. Excess silica is undesirable because it separates as a gelatinous precipitate which covers the sugar crystals and retards their growth and filtration. Magnesia is objectionable because magnesium carbonate is soluble in sugar juice. Presence of iron tends to colour the finished product.

Fertilizer Industry

Limestone is used only as carrier in the manufacture of calcium ammonium nitrate fertilizer. For this purpose,

limestone should contain MgCO₃+CaCO₃ 85% (min.), SiO₂ 5% (max.) and acid insolubles 14% (max.).

Foundry Industry

The chemical requirements of limestone for use in foundries as per BIS specification (IS : 4140 -1978) have been withdrawn.

INDUSTRY & CONSUMPTION

Limestone comprises 95% of core raw material for cement production. As per report of Mines & Minerals-CMA India, around 180-250 kg of coal and about 1.5 tonnes of limestone is required to produce one tonne of cement.

India was the second largest cement producing country in the world after China. The total installed capacity of cement in 2019-20 was thus about 537 million tpy against 532.16 million tpy in the preceding year. Besides, there are three white cement plants having a total 9,90,000 tpy capacity. The total production of cement reached 334.37 million tonnes in 2019-20 registering a negative growth of about 0.87% over that of the preceding year.

In 2019-20, the total consumption of limestone, as reported by different industries was 328.62 million tonnes which decreased marginally by 5.41% from 347.42 million tonnes in the preceding year. Cement was the major consuming Industry accounting for 308.66 million tonne (94%) consumption, followed by Iron & Steel 12.68 million tonne (4%) and Chemical 5.29 million tonne (2%). Negligible consumption was reported by aluminium, sugar & other industries etc. Consumption of limestone from 2017-18 to 2019-20 is furnished in Table - 15.

**Table - 15 : Consumption* of Limestone, 2017-18 to 2019-20
(By Industries)**

Industry	(In tonnes)		
	2017-18	2018-19 (R)	2019-20 (P)
All Industries	313767100 (216)	347421600 (217)	328619800 (208)
Aluminium/Alumina	126100	67200	57800
Cement	295644300	327466600	308659600
Chemical	5116100	5162200	5293100
Iron & Steel	11135600	12723600	12680700
Sugar(c)	780000	858000	648000
Others**	965000	1144000	1280600

Figures rounded off.

* Includes actual reported consumption and/or estimates made wherever required. Due to paucity of data, coverage may not be complete.

** Includes, Alloy steel, calcination, ceramic, electrodes, oil well drilling, refractory, petroleum refining, sponge iron fertilizers, ferroalloys, foundry, glass, paper, metallurgy & thermal power.

() Parenthesis indicates total no. of plants

FOREIGN TRADE

Exports

Exports of limestone increased by 245% to 12.16 million tonnes in 2021-22 from 3.53 million tonnes in the previous year. Limestone in bulk was exported mainly to Bangladesh (99%) and Nepal (1%). On the other hand, during the same period, exports of chalk increased moderately by 2% to 1129 tonnes from 1,104 tonnes in the previous year. Chalk was exported mainly to Nepal (92%), Bangladesh (3%), Congo (2%) and UAE (2%).

Exports of bleaching powder increased by 44% at 30,919 tonnes in 2021-22 as compared to 21,509 tonnes in the previous year. Bleaching powder was exported mainly to Bangladesh (84%), Sri Lanka (4%) and Nepal (4%) besides other countries.

In 2021-22, about 787 tonnes of calcium carbide was also exported as against 129 tonnes in the previous year registering a massive increase of 510%. Exports were mainly to Bangladesh (89%) and Nepal (7%). (Tables-16 to 19).

Imports

Imports of limestone increased moderately by 21% to 27.58 million tonnes in 2021-22 from 22.79 million tonnes in the previous year. On the other hand, imports of chalk in 2021-22 drastically decreased by 3% to 64 tonnes as against 66 tonnes in the previous year. Limestone was imported mainly from UAE (88%), Oman (8%), Vietnam (2%) and Malaysia (1%), while chalk was imported mainly from France (93%) & Italy (6%).

Imports of calcium carbide decreased marginally by 33% to 22,008 tonnes in 2021-22 from 32,665 tonnes in the previous year. Calcium carbide was imported mainly from China (79%) and Indonesia (20%). The imports of bleaching powder during 2021-22 decreased by 8% to 31 tonnes as against 34 tonnes in the previous year. Imports were mainly from USA (97%) and Argentina (3%) (Tables-20 to 23).

**Table – 16 : Exports of Limestone
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	3528973	42939083	12160342	4551537
Bangladesh	3447674	41950799	12112717	3474832
USA	7481	175659	5607	607975
Nepal	17098	106929	17272	105575
U K	31871	379721	6187	93047
Ireland	6136	77425	3049	40362
Korea, Rep. of	3308	34268	3416	30926
China P Rp	364	5791	1499	28727
Belgium	1670	21699	2129	24420
U Arab Emts	741	21454	641	22522
Ghana	891	9873	1093	14705
Other countries	11739	155465	6732	108446

Figures rounded off

**Table – 17 : Exports of Chalk
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	1104	6155	1129	7557
Nepal	936	4281	1039	5628
Congo D. Rep.	++	5	21	645
Egypt A Rp	47	495	28	451
Bangladesh Pr	1	10	33	292
Bhutan	1	12	2	149
Canada	--	--	++	126
Gambia	++	4	4	77
U S A	4	25	++	44
Maldives	1	11	++	38
U Arab Emts	25	449	1	21
Other countries	89	863	1	86

Figures rounded off

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 18 : Exports of Bleaching Powder
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	21509	734237	30919	931596
Bangladesh	15834	468720	26059	697795
USA	814	71779	732	65150
Sri Lanka Dsr	1615	52816	1228	44202
Vietnam Soc Rep	639	40912	355	23880
Nepal	1160	23736	1374	23553
U Arab Emts	69	2778	244	21504
Malaysia	484	19394	357	18041
Israel	24	1747	105	10312
Ethiopia	166	6127	133	4647
Egypt A Rp	--	--	40	3336
Other countries	704	46228	292	19176

Figures rounded off

**Table – 20 : Imports of Limestone
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	22797801	32911759	27582767	49014650
UAE	18835897	23618001	24281405	39309027
Oman	2623396	4505778	2337928	4191555
Malaysia	635579	2739907	648596	3627260
Vietnam	489553	1172453	114659	747183
Egypt	52930	209827	91165	376224
China	7070	120656	7563	244462
Thailand	14338	163346	7952	181001
Philippines	66950	129086	44000	118475
U K	2578	54269	3002	70607
Jordan	--	--	13968	52611
Other countries	69510	198436	32529	96245

Figures rounded off

**Table – 19: Exports of Calcium Carbide
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	129	11213	787	97371
Bangladesh	82	6221	701	89402
Nepal	--	--	48	3202
Djibouti	--	--	22	2360
Bhutan	47	4706	16	2059
Germany	++	30	++	319
Singapore	++	45	++	29
USA	++	109	++	--
Mozambique	++	72	++	--
Saudi Arabia	++	24	--	--
Tanzania Rep	++	4	--	--
Other countries	++	2	--	--

Figures rounded off

**Table –21 : Imports of Chalk
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	66	2661	64	2197
France	40	1110	60	1719
Italy	4	381	4	376
Seychelles	--	--	++	53
China P Rp	4	182	++	30
U S A	--	--	++	17
UK	++	1	++	2
Belgium	10	583	--	--
Taiwan	++	179	--	--
Germany	8	167	--	--
Vietnam Soc Rep	++	58	--	--
Other countries				

Figures rounded off

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 22 : Imports of Calcium Carbide
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	32665	1774852	22008	1576090
China	29248	1580788	17400	1274224
Indonesia	3384	193334	4590	299912
U S A	--	--	18	1954
Dominica	33	730	--	--

Figures rounded off

**Table – 23 : Imports of Bleaching Powder
(By Countries)**

Country	2020-21 (R)		2021-22 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	34	5524	31	6228
USA	28	3656	30	4824
Argentina	4	1714	1	1400
Japan	2	129	++	4
Switzerland	++	22	--	--
Germany	++	3	--	--

Figures rounded off

FUTURE OUTLOOK

India has huge resources of limestone distributed over different parts of the country. It is comfortably placed in terms of annual capacity and production of cement. Cement-grade limestone occurs in all the limestone-bearing areas, while SMS, BF and Chemical-grade limestones occur in selective areas. Concerted efforts to locate SMS and BF grade limestone along with Cement-grade limestone are imperative to meet the growing demand.

The demand of raw materials for cement, such as, limestone and gypsum is expected to cause disruptive growth in the next few decades. The second largest Cement Industry in the world, the Indian Cement Industry, is expected to grow to an extent of 550 million tonnes per annum of capacity by FY2025.

The demand for paper in India is expected to rise at a healthy rate mainly due to the Packaging Industry and the increasing number of schools. The increasing number of construction projects is expected to lead to a thriving Building and Construction Industry in India. This is expected to contribute 10% to the GDP of India. Also with rising growth in Indian pharmaceutical and Food & Beverage industries, the consumption of calcium carbonate (limestone) in India is expected to increase.

India's domestic demand is being fulfilled as per the Government of India's new policy of allotment of mining blocks through auctioning. Up to 2022-23, a total of 241 blocks were auctioned. Out of these 241 blocks, 74 blocks were limestone blocks.