

LIMESTONE AND OTHER CALCAREOUS MATERIALS



Indian Minerals Yearbook 2012

(Part- III : Mineral Reviews)

51st Edition

LIMESTONE & OTHER CALCAREOUS MINERALS

(FINAL RELEASE)

GOVERNMENT OF INDIA
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INDIAN BUREAU OF MINES

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32 Limestone & Other Calcareous Materials

The term limestone is applied to any calcareous sedimentary rock consisting essentially of carbonates. The two most important constituents 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. It is then termed 'dolomitic' or 'magnesian' limestone. Such limestone contains 10 to 40% MgCO_3 . Limestones altered by dynamic or contact metamorphism become coarsely crystalline and are referred to as 'marbles' and 'crystalline limestones'. Other common varieties of limestones 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 is 'chalk', a white, extremely fine-grained, usually soft and friable variety of limestone, composed wholly or largely of microscopic small remains of foraminifera and broken shelly fragments; 'kankar', irregular nodules and concretions of impure calcium carbonate of all sizes found in the older surface alluvium or soils; and 'limeshell', the thick calcareous shells of molluscs deposited in the form of beds as well as present in ancient lakes and shallow seas. A limestone rock which separates well along the stratification into a few centimetres thick slabs is termed 'flagstone'. The dimensional limestone used for building and ornamental stone purposes is discussed in the Reviews on 'Marble' and 'Slate, Sandstone & Other Dimension Stones'.

RESOURCES

The total resources of limestone of all categories and grades as per UNFC system as on 1.4.2010 are estimated at 184,935 million tonnes, of which 14,926 million tonnes (8%) are under reserves category and 170,009 million tonnes (92%) are under remaining resources category. Karnataka is the leading state having 28% of the total resources followed by Andhra Pradesh (20%), Rajasthan (12%), Gujarat (11%), Meghalaya (9%) and Chhattisgarh (5%). Gradewise, cement grade has leading share of about 69% followed by SMS & BF grades (12%) and chemical grade (3%). Remaining 16% are others, not-known and unclassified grades (Table-1(A)).

The total resources of chalk of all categories and grades as per UNFC system as on 1.4.2010 are estimated in Gujarat at 4.92 million tonnes of which 4.33 million tonnes (88%) are under reserves category and 0.59 million tonnes are under remaining resources category (Table-1(B)).

The total resources of marl of all categories and grades as per UNFC system as on 1.4.2010 are estimated in Gujarat State at 151.68 million tonnes of which 139.98 million tonnes (92%) are under reserves category and 11.70 million tonnes are under remaining resources category (Table - 1 (C)).

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 1(A) : Reserves/Resources of Limestone as on 1.04.2010
(By Grades/States)

(In '000 tonnes)

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	8978583	3650574	2297234	14926392	1827583	3739470	6309489	6858999	22040640	124835558	4396981	170008720	184935112
By Grades													
Chemical	189441	4094	42988	236522	40413	91817	569507	17074	1823217	2301101	-	4843129	5079652
S.M.S.(O.H.)	148323	864528	2284	1015135	1990	279167	729551	469116	454149	1825195	239223	3998392	5013527
S.M.S.(L.D.)	1619	98635	155	100409	810	9928	11364	1019	49894	123965	-	196979	297388
S.M.S.(O.H. & L.D. mixed)	22842	-	-	22842	-	-	-	-	2604	167182	-	169786	192628
B.F.	432522	455504	42720	930747	97375	26225	63246	467190	966030	11137050	13313	12770428	13701174
S.M.S. & B.F. mixed	4910	211614	2956	219480	24171	25138	36038	2000	122103	780680	240733	1230862	1450342
Cement (portland)	7475616	1638178	2102094	11215887	1564469	3192817	4799174	4884690	12802454	82928360	3516270	113688234	124904122
Cement (white)	1503	-	759	2263	4742	2066	1976	117000	-	2256	-	128039	130302
Cement (portland & white)	80266	5082	1110	86458	5103	13495	13119	338670	60000	506445	39000	975833	1062291
Cement (blendable/beneficiable)	232608	55367	27316	315290	30317	37274	2672	43047	43776	438833	-	595918	911208
B.F. & cement mixed	13149	14135	26468	53753	-	26608	6119	485	-	76843	-	110056	163809
S.M.S.,chemical & paper	1059	-	273	1331	25	2169	1303	-	-	1228617	-	1232114	1233446
Paper	28343	-	448	28791	466	56	131	120678	27073	748560	-	896964	925755
Others	83074	14450	9058	106582	11264	19016	22972	162376	515695	2876988	253007	3861317	3967899
Unclassified	115052	26687	38305	180044	46132	7325	44287	190717	5094328	18780431	74468	24237689	24417733
Not-known	148255	262301	300	410857	307	6366	8030	44938	79318	913053	20967	1072980	1483836
By States													
Andhra Pradesh	2483095	581935	983048	4048078	311682	64645	460685	215847	1075504	28112011	3147926	33388299	37436377
Arunachal Pradesh	-	-	-	-	-	-	-	-	49220	433575	-	482795	482795
Assam	183788	152562	-	336350	10902	9828	4257	154644	34200	897161	-	1110992	1447342
Bihar	7822	-	795	8617	-	6123	6689	86379	38210	709522	-	846923	855540
Chhattisgarh	856930	10962	30004	897896	46468	742220	80465	1331984	480812	5379600	-	8061550	8959446
Daman & Diu	-	-	-	-	-	-	-	-	-	128670	-	128670	128670
Gujarat	542498	72263	195715	810475	60640	88866	159549	18728	858265	18014634	-	19200681	20011157

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 1 (Concid.)

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			
		STD121	STD122			STD221	STD222				STD334		STD334	(B)
Haryana	-	-	-	-	1425	15507	3382	-	2200	52163	-	-	74677	74677
Himachal Pradesh	541555	226170	209638	977363	48410	44097	21220	1525202	1891	2830449	433	4471702	5449064	
Jammu & Kashmir	257480	5525	54100	317106	421116	21686	165199	43621	-	1001420	203	1274246	1591352	
Jharkhand	144259	4105	54713	203077	8364	7704	9672	9534	12125	372131	11803	431333	634410	
Karnataka	538927	486300	72518	1097745	171995	394671	453541	1573788	13919929	34579866	8240	51102029	52199775	
Kerala	12959	-	-	12959	122659	77	1576	21161	2888	35228	-	183589	196548	
Madhya Pradesh	460445	1166513	24865	1651823	287634	204089	88311	514783	560472	3971168	264247	5890703	7542526	
Maharashtra	589789	176015	60794	826598	464232	176987	52152	28470	159309	1114112	-	1995262	2821860	
Manipur	-	-	-	-	-	-	-	19953	2138	23962	-	46053	46053	
Meghalaya	138207	94459	-	232666	36898	23400	-	460107	2811179	13941438	-	17273022	17505688	
Nagaland	825	-	-	825	-	-	-	-	1010000	27000	-	1037000	1037825	
Odisha	280588	466627	126717	873932	3225	49045	241871	133600	44562	386952	49800	909055	1782987	
Puducherry	-	-	-	-	-	-	-	4433	4333	6966	-	15732	15732	
Rajasthan	1740173	91434	428111	2259717	141539	1607076	4438479	467462	720874	11110360	914330	19400121	21659838	
Sikkim	-	-	-	-	-	-	-	-	-	2380	-	2380	2380	
Tamil Nadu	199243	115705	55165	370112	19229	55984	42014	69951	32169	460412	-	679759	1049871	
Uttar Pradesh	-	-	-	-	45130	135590	21050	142763	40000	31200	-	415733	415733	
Uttarakhand	-	-	1051	1051	5035	91872	59378	29486	164879	1191059	-	1541709	1542760	
West Bengal	-	-	-	-	-	-	-	7104	15482	22120	-	44706	44706	

Figures rounded off.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 1 (B) : Reserves/Resources of Chalk as on 1.04.2010
(By Grades/States)

(In '000 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
All India : Total	3266	537 528	4332	184	5 127	-	-	269	-	585
By Grade										
Unclassified	3266	537 528	4332	184	5 127	-	-	269	-	585
By State										
Gujarat	3266	537 528	4332	184	5 127	-	-	269	-	585

Figures rounded off.

Table – 1 (C) : Reserves/Resources of Marl as on 1.04.2010
(By Grades/States)

(In '000 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
All India : Total	133236150	4650000 2090000	139976150	11704870	-	-	-	-	-	11704870 151681020
By Grade										
All grades	133236150	4650000 2090000	139976150	11704870	-	-	-	-	-	11704870 151681020
By State										
Gujarat	133236150	4650000 2090000	139976150	11704870	-	-	-	-	-	11704870 151681020

Figures rounded off.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

EXPLORATION & DEVELOPMENT

GSI conducted exploration for limestone in Rajasthan, Karnataka, Andhra Pradesh and Meghalaya. Directorates of Mining and Geology of Governments of Assam, Odisha, Karnataka, and Rajasthan also carried out exploration for limestone. Mineral Exploration Corporation Ltd (MECL) also engaged in exploration of limestone. Details of work carried out by these organisations are given in Table-2.

PRODUCTION, STOCKS AND PRICES

Limestone

The production of limestone in 2011-12 at about 256.7 million tonnes increased by 4% as compared to that of the previous year. Owing to more demand in the market, some of the principal producers of limestone reported more production during the year.

There were 659 reporting mines in 2011-12 as against 592 during the previous year. Twenty two mines, each producing more than three million tonnes per annum contributed about 40% of the total production of limestone in 2011-12. The share of 9 mines, each in the production range of 2 to 3 million tonnes was 8% of the total production. About 27% of the total production

was contributed by 51 mines, each producing 1 to 2 million tonnes annually. The remaining 25% of the total production was reported by 577 limestone mines and 3 associated mines. Twenty four principal producers contributed about 79% of the total production. About 6% of the production was reported by public sector mines as in the previous year.

About 94% of the total production of limestone during 2011-12 was of cement grade, 5% of iron & steel grade and the rest 1% consisted of chemical and other grades.

Andhra Pradesh was the leading producing state accounting for (21%) of the total production of limestone, followed by Rajasthan (19%), Madhya Pradesh (13%), Gujarat (9%), Tamil Nadu, Karnataka and Chhatisgarh (8% each), Maharashtra and Himachal Pradesh (4% each) and the remaining 6% was contributed by Meghalaya, Uttar Pradesh, Odisha, Jharkhand, Kerala, Bihar, Assam and Jammu & Kashmir.

Mine-head stocks of limestone at the end of the year 2011-12 were 12.4 million tonnes as against 11.8 million tonnes at the beginning of the year.

Average daily labour employment in limestone mines in 2011-12 was 23,202 as against 20,036 in the previous year.

Table – 2 : Details of Exploration Activities for Limestone, 2011-12

Agency/ State/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI	Andhra Pradesh Kurnool West of Nandikotkur	-	-	-	-	-	Reconnaissance stage investigation (G-4) initiated. During 2009-10 was continued in Cuddapah basin for limestone. Analysis of different coloured limestone samples collected from the area indicate that the light pinkish colour limestone is of high grade with CaO 51.10% and the silica 3.04%. The dark grey massive Narji limestone are of very good cement grade with CaO 44-46% and SiO ₂ 10-18% and MgO 0.5%. Dark brownish limestone is of poor cement grade limestone with CaO 35.70% and SiO ₂ 30.68%. Light greenish massive limestone is of good cement grade with CaO 44.80%-45.57% and SiO ₂ 13.69-15.08%. The work has been completed.

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LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 2 (Contd.)

Agency/ State/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
Karnataka	Bagalkot Jalikatti, Lokapur and adjoining areas	-	-	-	-	-	Reconnaissance (G-4) stage investigation has been taken up during FS 2010-12 as per request of DMG, Karnataka in Kaladgi basin (DMG blocks to assess SMS grade limestone for alkali content). The width of limestone is of Yendigiri formation varies from 100-400 m and could be more. The limestone unit of Muddapur formation is 15 - 80 m wide. Preliminary assessment indicates that the dark grey limestone belonging to Yendigere Formation tentatively conforms to the specifications of flux and SMS grade limestone. The lower part of Yadigiri and Muddapur are variegated and may not be suitable as flux and SMS grade. It has high SiO ₂ and grades to shaley limestone. The work is under progress.
Meghalaya	Jaintia Hills Umphryluh Block	-	-	-	-	-	Prospecting stage investigation (G- 3) was taken up during FS 2010-12 in this area to explore limestone resources in the peripheral area of the Litang Valley limestone deposit. The limestone is grey to dark grey colour, medium & highly fossiliferrous. The work is in progress.
Rajasthan Jaisalmer	Jiraj ka Toba- Asu Tar area	-	-	12	4	437 (core of chemical analysis) 12 (decrepi- tating test)	Prospecting stage investigation (G-3) in this area was taken up to locate low. Silica SMS (LD-grade) limestone in view of increasing demand by steel plants. The light pink, pinkish white to dirty white fine grained, hard massive and highly fossiliferrous nodular limestone & impure clayey limestone occurs in this area. Dirty white & yellowish white, gritty limestone also occurs. All the boreholes intersected SMS grade and cement grade limestone varying in thickness from 1 m to 1.5 m from ground level to 50 m depth below ground level. The results will be estimated after receiving all the analysis report.

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LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 2 (Contd.)

Agency/ State/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
DGM							
Assam							
Dima Hasao	New Umrangshu	1:20,000	1.02	-	-	-	Two bands of limestone varies in thickness 32 m – 36 m were encountered. Top band is slightly ferruginous with low CaO content whereas bottom band is suitable for the manufacture of Portland cement (CaO – 43% - 52%, Fe ₂ O ₃ - 4.48%, MgO-1.95% Al ₂ O ₃ -3.96%). About 19.25 million tonnes of limestone resources were estimated.
Karnataka							
Gulbarga	Jewargi	1:2,500	-	03	-	372	Limestone deposit are well exposed which is massive grey to light grey in colour, overlain on granite gneisses followed by shale. Resources were not estimated.
Tumkur	Melanhally	-	-	01	-	65.50	Objective of exploration was to assess the depth continuity and quality of limestone. Limestone/ Dolomite are highly disturbed in nature with dykes intrusions. Resources were not estimated.
Rajasthan							
Alwar	N/V Karoi, Khatikon Ki Dhani	1:10,000 1:4,000	154	-	-	08	Limestone belonging to Ajabgarh Group of Delhi Super group was reported N/V Karoi & Khatikon Ki Dhani. Limestone reportedly exists from 35-55 m depth N/V Karsi and spread over 500x200 m area N/V Simawata Ki Dhani. Limestone also exists from 35 m depth to the N/W of Village Panchpahari. Resources were not estimated.
Jaipur	N/V Buchara Meena Ki Dhani	1:4,000	10	-	-	82	Limestone rock which is forming hillock N/V Meena Ki Dhani having dimensions 1100 mx300-500 m. Calcite veins of variable size were also seen in the some part of the hillock. Massive quartzite, sericitic quartzite, brecciated ferruginous quartzite & schist rocks were observed N/V Kharab in addition to some pockets of clay, red/yellow ochre were also mapped.

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LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 2 (Concl.d.)

Agency/ State/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
Jaisalmer	Sam	1:50,000 1:2,000 1:10,000	100 0.4 15	-	15	-	The area comprises of an outcrops of hard, compact limestone underlain by chalky limestone and overlain by Shumar formation with sand. The limestone is creamish, pinkish to whitish in colour & fossiliferous in nature. Hillocks of SMS & Cement grade limestone were mapped N/V Jagan Ki Dhani which spread over an 5 sq km area. The upper most bed of hard compact bouldary limestone varies in thickness from 3-5 m. Outcrops of limestone were also noticed N/V Turkon Ki Basti. Resources were not estimated.
Jhalawar	N/V Maslanwasa	1:50,000 1:10,000 1:2,000	100 10 2	-	-	16	The limestone which were noticed N/V Malanwasa having dimension size of 1400 m X 300 m X 1-2 m, N/V Chitawa-Chanpakhur 1200 m X 300 m X 5 m. In south of village Chitawa 1300 m x 350 m X 1-2 m and N/V Hatola 700 m X 150 m X 2-3 m. The limestone which occurred in this area is of low grade to marginal cement grade. About 1.63 million tonnes limestone resources were estimated
Kota	N/V Lalahera, Mandap, Majra, Jhonpariya, etc.	1:50,000 1:10,000 1:2,000	150 10 1	-	-	21	The limestone deposit occurred N/V Lalahera has dimension 1200 m x 200 m x 2-3, N/V Mandap at two places 250 m x 125 m x 1-2 m and 200 m x 100 m x 1-2 m, N/V Majra, Jhonpariya 600 m x 300 m x 2 m and at Ramri 500 m x 250 m x 2 m. The limestone is mainly dirty white, greyish and light brown in colour, hard, compact and at some places cherty in nature. A total of about 3.43 million tonnes limestone resources were estimated out of which N/V Lalahera – about 1.56 million tonnes, N/V Ramri- 0.65 million tonnes, N/V Saderi – 0.10 million tonnes, N/V Mandap - 0.19 million tonnes and N/V Majra Jhonpariya – 0.93 million tonnes.
Pali	N/V	1:5,000	11.61	42	1803.50	1160	The main litho units are black, murkasni Jhagreyish coloured limestone, dolomitic limestone, dolomite and chert. Cement grade limestone was intersected in all the boreholes in the form of repeated horizons having cumulative thickness of 5- 15 m in each boreholes except BH- 6. A total of about 76.8 million tonnes resources of cement grade/high grade limestone were estimated.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 3 : Principal Producers of Limestone
2011-12**

Name and address of producer	Location of mine	
	State	District
Ultra Tech Cement Ltd, 'B' Wing,Ahura Centre, 2 nd Floor, Mahakali Caves Road, Andheri (E), Mumbai-400 093, Maharashtra.	Andhra Pradesh	Kurnool
	Chhattisgarh	Raipur
	Gujarat	Amreli
	Karnataka	Gulbarga
	Madhya Pradesh	Neemuch
	Maharashtra	Chandrapur
	Rajasthan	Chittorgarh
		Jaipur
		Nagaur
	Tamil Nadu	Ariyalur Perambalur
Ambuja Cement Ltd, P.O. Ambujanagar, Thsil : Kodinar, Junagadh-362 715, Gujarat.	Chhattisgarh	Raipur
	Gujarat	Junagadh
	Himachal Pradesh	Solan
	Maharashtra	Pali
The ACC Ltd,Cement, House, 121, Maharshi Karve Road, Mumbai – 400 020, Maharashtra.	Rajasthan	Chandrapur
	Andhra Pradesh	Adilabad
	Chhattisgarh	Durg
	Himachal Pradesh	Bilaspur
	Jharkhand	Singhbhum
	Karnataka	West Gulbarga
Karnataka	Madhya Pradesh	Katni
	Maharashtra	Yavatmal
	Rajasthan	Bundi
	Tamil Nadu	Coimbatore
Jaiprakash Associates Ltd, Sector – 128, Noida – 201 304, Uttar Pradesh.	Gujarat	Kachchh
	Madhya Pradesh	Rewa
	Himachal Pradesh	Solan
Shree Cement Ltd, Bangur Nagar Post Box No. 33, Beawar – 305 901, Rajasthan.	Uttar Pradesh	Sonbhadra
	Rajasthan	Ajmer Pali
The India Cement Ltd, “Dhun Building” 4 th Floor, 827, Anna Salai, Chennai – 600 002.	Andhra Pradesh	Cuddapah
	Tamil Nadu	Nalgonda Ariyalur Perambalur Tirunelveli Thoothu- kudi Virudhu- nagar
Binani Cement Ltd, 706, Om Tower, 32, Chowringhee Road, Kolkata – 700 071.	Rajasthan	Sirohi

(Contd.)

Table - 3 (Contd.)

Name and address of producer	Location of mine	
	State	District
Dalmia Cement Ltd, P. O. Dalmiapuram, Thiruchirapalli-621 651, Tamil Nadu.	Andhra Pradesh	Cuddapah
	Tamil Nadu	Ariyalur Perambalur Thiruchira- palli
Madras Cement Ltd, Ramamandiram, P.O.Rajapalayam-626 117, Virudhunagar, Tamil Nadu.	Andhra Pradesh	Krishna
	Karnataka	Chitradurga
Tamil Nadu.	Tamil Nadu	Ariyalur Perambalur Thoothu- kudi Virudhu- nagar
J. K. Cement Works, Kamla Tower, Kanpur-208 001, Uttar Pradesh.	Rajasthan	Chittorgarh Nagaur
	Karnataka	Bagalkot
Lafarge India Private Ltd, “Bakhtawar” 14 th Floor, 229, Nariman Point, Mumbai-400 021.	Chhattisgarh	Jangir- Champa Raipur
J. K. Lakshmi Cement Ltd, P.O. Jaykaypuram, Sirohi, Rajasthan.	Rajasthan	Sirohi
Century Textiles & Industries Ltd, Century Bhawan, Dr. Annie Besant Road, Mumbai- 400 025, Maharashtra.	Chhattisgarh	Raipur
	Madhya Pradesh	Satna
Kesoram Industries Ltd, 9/1, R. N. Mukherjee Road, Kolkata – 700 001.	Maharashtra	Chandrapur
	Andhra Pradesh	Karimnagar
Chettinad Cement Corp. Ltd, 4 th Floor, Rani Seethai all Building, 603, Anna Salai, Chennai – 600 006 Tamil Nadu.	Karnataka	Gulbarga
	Tamil Nadu	Ariyalur Dindigul Karur Perambalur
Birla Corporation Ltd, M. N. Mukherjee Road, Kolkata – 700 001, West Bengal.	Madhya Pradesh	Satna
	Rajasthan	Chittorgarh

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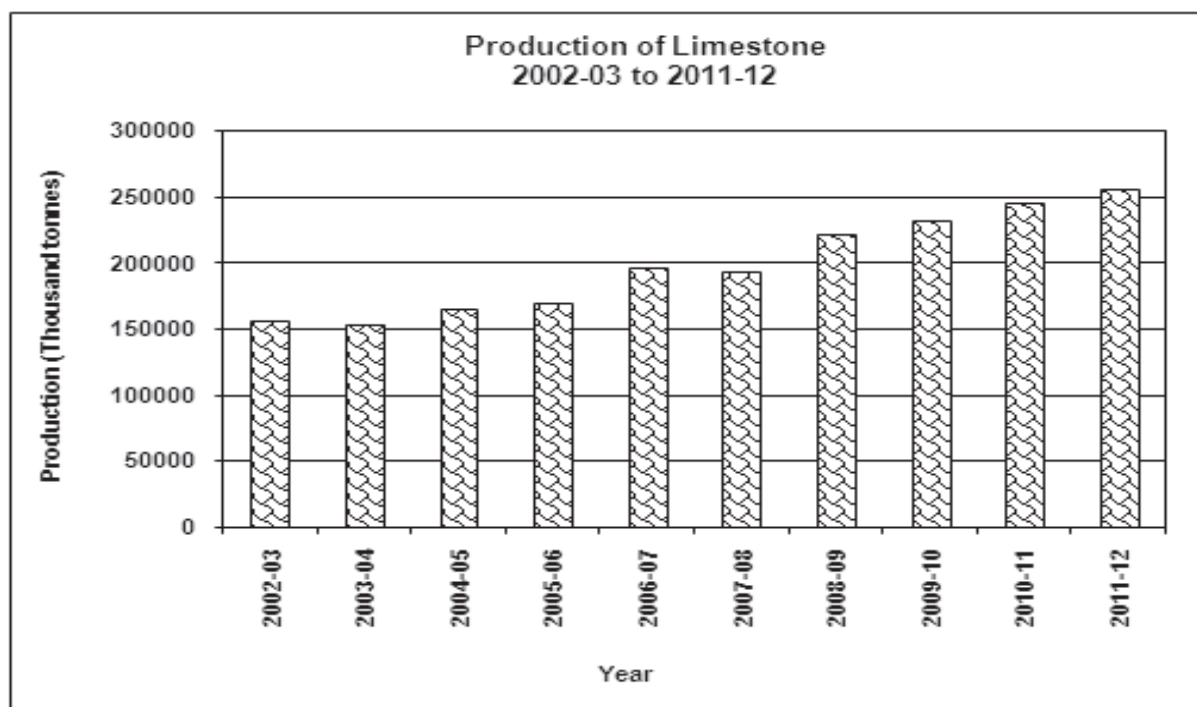
Table - 3 (Contd.)

Name and address of producer	Location of mine	
	State	District
Prism Cement Ltd, 305, Laxmi Niwas, Apartments, Ameerpath, Hyderabad-500 016, Andhra Pradesh.	Andhra Pradesh	Kurnool
	Madhya Pradesh	Satna
Zuari Cement Ltd, Krishna Nagar, Yerraguntla, Kadapa -516 311, Andhra Pradesh.	Andhra Pradesh	Cuddapah Nalgonda
A.P. Mineral Dev. Corpn. Ltd., 3 rd Floor Rear Block, HMWSSB, Premises, Khairatabad, Hyderabad – 500 004.	Andhra Pradesh	Adilabad
Sanghi Industries Ltd, P.O. Sanghipuram, Taluka- Abdasa Kachchh, Gujarat- 370 511.	Gujarat	Kachchh

(Contd.)

Table - 3 (Concl.)

Name and address of producer	Location of mine	
	State	District
My Home Industries Ltd. 9 th Floor, Block-3, My Home Hub, Madhapur, Hyderabad-500 081, Andhra Pradesh.	Andhra Pradesh	Nalgonda
Bharathi Cements Corporation Pvt. Ltd, 8-2-626, Reliance Majestic, Road No.-10, Banjara Hills, Hyderabad – 500 034.	Andhra Pradesh	Cuddapah
Steel Authority of India Ltd, 10-Camac Street, Industry House, Kolkata – 700 017.	Chhattisgarh	Durg
	Jharkhand Madhya Pradesh	Garhwa Katni
Penna Cement Industries Ltd., Plot No.-705, Road No.-03, Banjara Hills, Hyderabad-500 034, Andhra Pradesh.	Andhra Pradesh	Anantpur



LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 4 : Production of Limestone, 2009-10 to 2011 -12**(By States)**

(Qty in '000 tonnes; Value in ₹'000)

State	2009-10		2010-11		2011-12(P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	232950	32477596	246336	36349567	256669	36529857
Andhra Pradesh	49560	6419110	52633	7375266	53882	7190524
Assam	396	93537	350	82772	242	59900
Bihar	567	203330	872	292511	528	175742
Chhattisgarh	15160	2231873	19241	2997759	20124	3127956
Gujarat	23322	2864989	22500	2773002	24224	2863977
Himachal Pradesh	8411	824371	11927	1437928	10766	1155493
Jammu & Kashmir	278	59777	154	26991	225	34141
Jharkhand	1924	384303	1996	453107	2164	448199
Karnataka	17959	1718707	18595	1933439	20228	2340902
Kerala	533	169645	530	115506	539	122185
Madhya Pradesh	28967	3795849	33276	4785685	32658	3940056
Maharashtra	9433	1069248	9905	1120117	11330	1347140
Meghalaya	3249	757175	1783	374170	3606	1427008
Odisha	2937	843098	3923	1102597	3157	976930
Rajasthan	47180	6971469	44773	7212296	47930	6923163
Tamil Nadu	20619	3717570	20566	3765907	21736	3963613
Uttar Pradesh	2455	353545	3312	500514	3330	432928

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 5 : Production of Limestone, 2010-11 and 2011-12(P)
(By Frequency Groups)**

Production group (In tonnes)	No. of mines		Production for the group ('000 tonnes)		Percentage in total production		Cumulative percentage	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
All Groups	592(1)	659(3)	246336	256669	100.00	100.00	-	-
Up to 10000	234(1)	268(3)	549	630	0.22	0.25	0.22	0.25
10001 - 50000	114	134	2686	3282	1.09	1.28	1.31	1.53
50001 - 100000	39	46	2788	3310	1.13	1.29	2.44	2.82
100001 - 200000	41	36	5868	5312	2.38	2.07	4.82	4.89
200001 - 300000	15	18	3603	4387	1.46	1.17	6.28	6.60
300001 - 400000	15	16	5138	5703	2.09	2.22	8.37	8.82
400001 - 500000	9	12	4055	5405	1.65	2.11	10.02	10.93
500001 - 600000	12	12	6571	6664	2.67	2.60	12.69	13.53
600001 - 700000	7	7	4568	4517	1.85	1.76	14.54	15.29
700001 - 800000	15	11	11174	8120	4.54	3.16	19.08	18.45
800001 - 900000	5	7	4051	5885	1.64	2.29	20.72	20.74
900001 - 1000000	7	10	6673	9496	2.71	3.70	23.43	24.44
1000001 - 2000000	47	51	65120	69892	26.44	27.23	49.87	51.67
2000001 - 3000000	11	9	26967	21530	10.95	8.31	60.82	60.06
3000001 & above	21	22	96525	102536	39.18	39.94	100.00	100.00

Figures in parentheses indicate associate mine of limestone with dolomite.

**Table – 7 : Mine-head Stocks of Limestone, 2011-12
(By States/Grades)**

(In '000 tonnes)

State	At the beginning of the year					At the end of the year (p)				
	Grades					Grades				
	Cement	Iron & Steel	Chem.	Others	Total	Cement	Iron & Steel	Chem.	Others	Total
India	10582	937	292	32	11843	10358	981	1047	3	12389
Andhra Pradesh	1373	48	15	-	1436	1530	16	12	3	1561
Assam	98	-	-	-	98	63	-	-	-	63
Chhattisgarh	140	44	-	1	185	128	33	-	-	161
Gujarat	3135	-	109	-	3244	2775	-	841	-	3616
Himachal Pradesh	15	75	-	-	90	23	48	-	-	71
Jammu & Kashmir	2	-	-	-	2	2	-	-	-	2
Jharkhand	11	198	-	-	209	++	213	-	-	213
Karnataka	2753	30	-	-	2783	2894	72	-	-	2966
Kerala	16	-	-	-	16	29	-	-	-	29
Madhya Pradesh	857	11	-	-	868	555	34	-	-	589
Maharashtra	6	59	-	-	65	3	59	-	-	62
Meghalaya	1	-	++	-	1	62	-	1	-	63
Odisha	165	467	-	-	632	145	446	-	-	591
Rajasthan	1118	4	-	31	1153	1367	1	-	-	1368
Tamil Nadu	892	1	168	-	1061	782	59	193	-	1034

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 : Production of Limestone, 2010-11 & 2011-12
(By Sectors/States/Districts/Grades)

State/District	2010-11										2011-12(P)											
	Grades					Total					Grades					Total						
	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	
India	592(1)	234270	7833	3809	424	246336	36349567	659(3)	240539	11669	4001	460	256669	36529857								
Public sector	33	11604	3694	-	420	15718	3397467	34	10884	3793	-	347	15024	3308937								
Private sector	559(1)	222666	4139	3809	4	230618	32952100	625(3)	229655	7876	4001	113	241645	33220920								
Andhra Pradesh	82	52232	364	37	-	52633	7375266	84(1)	53321	438	52	71	53882	7190524								
Adilabad	3	3713	-	-	-	3713	497059	2	4097	-	-	-	4097	587767								
Anantapur	6	1765	-	-	-	1765	187779	5	1441	-	-	-	1441	152601								
Cuddapah	6	8813	-	-	-	8813	1185482	6	9695	-	-	-	9695	1099820								
Guntur	7	2702	-	-	-	2702	464288	6	3690	-	-	-	3690	565208								
Karimnagar	1	1275	-	-	-	1275	440525	1	1070	-	-	-	1070	392808								
Krishna	7	2955	364	-	-	3319	621981	8	3974	438	-	-	4412	793943								
Kurmoor	23	9678	-	37	-	9715	1344079	27(1)	9644	-	52	71	9767	1206287								
Nalgonda	25	17523	-	-	-	17523	2193615	25	15570	-	-	-	15570	1933549								
Ranga Reddy	4	3808	-	-	-	3808	440458	4	4140	-	-	-	4140	458541								
Assam	4	350	-	-	-	350	82772	3	242	-	-	-	242	59900								
Karbi Anglong	1	237	-	-	-	237	65464	1	189	-	-	-	189	49527								
North Cachar Hills	3	113	-	-	-	113	17308	2	53	-	-	-	53	10373								
Bihar	5	872	-	-	-	872	292511	2	528	-	-	-	528	175742								
Rohtas	5	872	-	-	-	872	292511	2	528	-	-	-	528	175742								
Chhattisgarh	40	19045	192	-	4	19241	2997759	49	19907	217	-	++	20124	3127956								
Bastar	8	25	-	-	4	29	9859	9	22	-	-	++	22	7557								
Durg	21	1116	192	-	-	1308	361689	25	1162	217	-	-	1379	387942								
Janjgir-Champa	2	2140	-	-	-	2140	289794	3	2016	-	-	-	2016	335215								
Raigarh	2	8	-	-	-	8	1069	1	3	-	-	-	3	535								
Raipur	6	15756	-	-	-	15756	2335319	10	16704	-	-	-	16704	2396701								
Rajnandgaon	1	++	-	-	-	-	29	1	++	-	-	-	++	6								

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 (Contd.)

State/District	2010-11										2011-12(P)											
	Grades					Total					Grades					Total						
	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	
Gujarat	114(1)	18890	-	3610	-	22500	2773002	103(1)	20433	-	3791	-	24224	2863977								
Amreli	2	6239	-	-	-	6239	768138	2	5795	-	-	-	5795	745090								
Jamnagar	21	1324	-	645	-	1969	200116	22	1172	-	1005	-	2177	228811								
Junagadh	55	5702	-	1998	-	7700	1042988	55	5372	-	1608	-	6980	891409								
Kachchh	3	4371	-	++	-	4371	406614	3	6994	-	++	-	6994	603957								
Porbandar	33(1)	1254	-	967	-	2221	355146	21(1)	1100	-	1178	-	2278	394710								
Himachal Pradesh	23	11471	456	-	-	11927	1437928	24	10303	463	-	-	10766	1155493								
Bilaspur	1	3902	-	-	-	3902	479885	1	2351	-	-	-	2351	222696								
Mandi	-	-	-	-	-	-	-	1	-	-	-	-	-	-								
Sirmour	20	362	456	-	-	818	205366	20	372	463	-	-	835	175732								
Solan	2	7207	-	-	-	7207	752677	2	7580	-	-	-	7580	757065								
Jammu & Kashmir	1	154	-	-	-	154	26991	1	225	-	-	-	225	34141								
Pulwama	1	154	-	-	-	154	26991	1	225	-	-	-	225	34141								
Jharkhand	15	1776	220	-	-	1996	453107	19	230	1934	-	-	2164	448199								
Bokaro	1	1	-	-	-	1	378	1	1	-	-	-	1	274								
Garwah	3	-	146	-	-	146	75956	4	5	73	-	-	78	19841								
Hazaribagh	3	28	-	-	-	28	6509	3	3	-	-	-	3	770								
Palamau	1	-	25	-	-	25	11957	1	-	10	-	-	10	4258								
Ranchi	1	-	3	-	-	3	782	1	-	40	-	-	40	10014								
Singbhum (West)	6	1747	46	-	-	1793	357525	9	221	1811	-	-	2032	413042								
Karnataka	66	18496	99	-	-	18595	1933439	66	20095	133	-	-	20228	2340902								
Bagalkot	51	2653	-	-	-	2653	319774	47	3078	123	-	-	3201	409132								
Belgaum	7	24	45	-	-	69	9474	8	94	10	-	-	104	16373								
Chitradurga	2	183	-	-	-	183	18527	3	119	-	-	-	119	11904								
Gulbarga	3	15428	-	-	-	15428	1512211	4	16419	-	-	-	16419	1809639								
Shimoga	1	-	54	-	-	54	12091	1	42	-	-	-	42	9394								
Tumkur	2	208	-	-	-	208	61362	3	343	-	-	-	343	84460								

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 (Contd.)

State/District	2010-11							2011-12(P)						
	Grades				Total			Grades				Total		
	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value
Kerala	1	530	-	-	-	530	115506	1	539	-	-	-	539	122185
Palakkad	1	530	-	-	-	530	115506	1	539	-	-	-	539	122185
Madhya Pradesh	85	32487	789	-	-	33276	4785685	103	31541	1078	-	39	32658	3940056
Damoh	3	2220	-	-	-	2220	252572	2	1519	-	-	-	1519	160358
Dhar	-	-	-	-	-	-	-	5	40	12	-	-	52	5178
Jabalpur	2	-	-	-	-	-	-	1	-	-	-	-	-	-
Katni	31	4418	786	-	-	5204	813788	38	4284	941	-	-	5225	778721
Neemuch	2	4668	-	-	-	4668	606242	2	4153	-	-	-	4153	402041
Rewa	8	6434	-	-	-	6434	793355	8	5757	-	-	-	5757	720299
Satna	38	13534	3	-	-	13537	2139814	46	14640	125	-	39	14804	1729576
Sidhi	1	1213	-	-	-	1213	179914	1	1148	-	-	-	1148	143883
Maharashtra	21	6552	3353	-	-	9905	1120117	19	7456	3874	-	-	11330	1347140
Chandrapur	8	5594	3353	-	-	8947	1019001	8	5902	3874	-	-	9776	1174584
Yavatmal	13	958	-	-	-	958	101116	11	1554	-	-	-	1554	172556
Meghalaya	9	1642	-	141	-	1783	374170	12	3469	-	137	-	3606	1427008
Jaintia Hills	6	1571	-	-	-	1571	310362	9	2003	-	-	-	2003	324069
Khasi Hills East	3	71	-	141	-	212	63808	3	1466	-	137	-	1603	1102939
Odisha	11	3787	136	-	-	3923	1102597	10(1)	3114	43	-	-	3157	976930
Bargarh	2	1098	-	-	-	1098	362723	2	1092	-	-	-	1092	399730
Korapat	1	170	-	-	-	170	23737	1	224	-	-	-	224	50192
Sundergarh	8	2519	136	-	-	2655	716137	7(1)	1798	43	-	-	1841	527008

(Contd.)

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table - 6 (Concl.d.)

State/District	2010-11							2011-12(P)						
	Grades				Total			Grades				Total		
	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value	No. of mines	Cement	Iron & Steel	Chem.	Others	Qty	Value
Rajasthan	24	42198	2155	-	420	44773	7212296	25	45333	2273	-	324	47930	6923163
Ajmer	1	1081	-	-	-	1081	205317	1	1530	-	-	-	1530	252972
Banswara	1	450	-	-	-	450	55384	1	1206	-	-	-	1206	157308
Bundi	1	803	-	-	-	803	180657	1	971	-	-	-	971	202712
Chittorgarh	6	10629	-	-	-	10629	1344594	7	10147	-	-	-	10147	1095800
Jaipur	1	3101	-	-	-	3101	413338	1	3532	-	-	-	3532	414609
Jaisalmer	2	-	2155	-	420	2575	829273	2	-	2273	-	324	2597	779976
Kota	1	1476	-	-	-	1476	295085	1	1927	-	-	-	1927	317945
Nagaur	4	718	-	-	-	718	155035	5	821	-	-	-	821	185475
Pali	2	12163	-	-	-	12163	1697320	2	12648	-	-	-	12648	1498310
Rajsamand	1	10	-	-	-	10	1173	1	3	-	-	-	3	405
Sikar	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Sirohi	3	11767	-	-	-	11767	2035120	3	12548	-	-	-	12548	2017651
Tamil Nadu	90	20476	69	21	-	20566	3765907	137	20473	1216	21	26	21736	3963613
Ariyalur	18	10328	-	-	-	10328	1771556	23	9548	1063	-	23	10634	1788076
Coimbatore	2	1058	-	-	-	1058	200426	2	1077	-	-	-	1077	252812
Dharmapuri	1	1	-	-	-	1	252	1	1	-	-	-	1	112
Dindigul	7	2912	-	-	-	2912	619623	15	3457	++	-	-	3457	713387
Karur	2	-	3	-	-	3	694	9	39	1	-	-	40	11083
Madurai	1	5	-	-	-	5	1409	3	5	-	-	-	5	1443
Namakkal	8	15	2	-	-	17	4746	6	5	4	-	-	9	2673
Perambalur	10	1572	-	-	-	1572	237145	19	1648	-	-	-	1648	261113
Salem	11	366	-	-	-	366	140118	13	168	2	-	-	170	44987
Tiruchirapalli	2	1559	-	-	-	1559	162038	4	2158	-	-	-	2158	245432
Tirunelveli	17	1188	64	21	-	1273	324606	24	1122	146	21	3	1292	354474
Thoothukudi/Tuticorin	6	909	-	-	-	909	192687	7	757	-	-	-	757	164933
Virudhunagar	5	563	-	-	-	563	110607	11	488	-	-	-	488	123088
Uttar Pradesh	1	3312	-	-	-	3312	500514	1	3330	-	-	-	3330	432928
Sonbhadra	1	3312	-	-	-	3312	500514	1	3330	-	-	-	3330	432928

Figures in parentheses indicate associate mine of limestone with dolomite.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Limeshell

The production of limeshell at 33,226 tonnes during 2011-12 increased by 9% as compared to the preceding year due to low productivity and less demand in the market.

There were 6 reporting mines in 2011-12 same as previous years. Three principal producers accounted for 82% of the total production during the year. The share of public sector was 45% in both 2010-11 and 2011-12.

Kerala was the leading producer of limeshell contributing about 71% of the total production followed by Karnataka (29%) (Table - 8 to 10).

Mine-head stocks of limeshell at the end of 2011-12 was 5,157 tonnes as against 6,911 tonnes at the beginning of the year (Table - 11).

The average daily employment of labour during the year 2011-12 was 522 as against 361 in the previous year.

Table – 8 : Principal Producers of Limeshell 2011-12

Name and address of producer	Location of mines	
	State	District
The Travancore Cement Ltd, Nattakom, Dist. Kottayam, Kerala-608 013.	Kerala	Kottayam
Late P. S. Gaonkar, C/o: Praksh P. Gaonkar, Matakeri, Aryadurga temple Road, Ankola, Uttar Kannada, Karnataka.	Karnataka	Uttar Kannada
Muhamma Clam Marketing Society Ltd, Vill-Thaneemukom South Taluk: Cherthala, Dist. Alapuzha, Kerala.	Kerala	Kottayam

Table – 9 : Production of Limeshell, 2009-10 to 2011-12 (By States)

(Qty in tonnes; value in ₹'000)

State	2009-10		2010-11		2011-12(P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	62215	50917	30410	32159	33226	39832
Karnataka	39880	25406	11578	8865	9689	7543
Kerala	22335	25511	18467	23020	23451	32203
Tamil Nadu	-	-	365	274	86	86

Table – 10 : Production of Limeshell, 2010-11 and 2011-12 (By Sectors/States/Districts)

(Qty in tonnes; value in ₹'000)

State/District	2010-11			2011-12(P)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	6	30410	32159	6	33226	39832
Public sector	1	13795	13340	1	14975	14481
Private sector	5	16615	18819	5	18251	25351
Karnataka	3	11578	8865	2	9689	7543
Udupi	1	998	482	-	-	-
Uttara Kannada	2	10580	8383	2	9689	7543
Kerala	2	18467	23020	3	23451	32203
Alapuzha	-	-	-	1	5058	9984
Kottayam	2	18467	23020	2	18393	22219
Tamil Nadu	1	365	274	1	86	86
Cuddalore	1	365	274	1	86	86

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 11 : Mine-head Stocks of Limeshell, 2011-12 (P)
(By States)

(In tonnes)

State	At the beginning of the year	At the end of the year
India	6911	5157
Karnataka	6901	5134
Tamil Nadu	10	23

Limekankar

The production of limekankar at 311,218 tonnes in 2011-12 decreased by 19% during the year as compared to that in the previous year owing to reduced demand.

There were four reporting mines in 2011-12. Almost, the entire production of limekankar was reported from Tamil Nadu and a nominal production was reported by two mines located in Andhra Pradesh (Table-12 to 14).

Mine-head stocks at the end of 2011-12 were 184,289 tonnes as against 133,459 tonnes at the beginning of the year (Table-15).

The average daily labour employment in 2011-12 was 29 as against 21 in the preceding year.

Table – 12 : Producers of Limekankar
2011-12

Name and address of producer	Location of mines	
	State	District
Madras Cements Ltd, Ramamandiram, Rajapalayam, Dist. Virudhunagar, Tamil Nadu-626 117.	Tamil Nadu	Virudhunagar
D. Kailas Sharma, DFN Area, Shreeram Nagar, Dist. Vizianagaram, Andhra Pradesh-535 101.	Andhra Pradesh	Vizianagaram

Table - 13 : Production of Limekankar, 2009-10 to 2011-12(P)
(By States)

(Qty in tonnes; value in ₹'000)

State	2009-10		2010-11		2011-12(P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	335067	58754	383817	84903	311218	62847
Andhra Pradesh	780	254	615	215	830	355
Tamil Nadu	334287	58500	383202	84688	310388	62492

Table – 14 : Production of Limekankar, 2010-11 and 2011-12
(By Sectors/States/Districts)

(Qty in tonnes; value in ₹'000)

State/District	2010-11			2011-12(P)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	2	383817	84903	4	311218	62847
Private sector	2	383817	84903	4	311218	62847
Andhra Pradesh	1	615	215	2	830	355
Vizianagaram	1	615	215	2	830	355
Tamil Nadu	1	383202	84688	2	310388	62492
Virudhunagar	1	383202	84688	2	310388	62492

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 15 : Mine-head Stocks of Limekankar
2011-12 (P)
(By States)**

State	(In tonnes)	
	At the beginning of the year	At the end of the year
India	133459	184289
Andhra Pradesh	44	334
Tamil Nadu	133415	183955

Chalk

The production of chalk at 176 thousand tonnes in 2011-12 decreased marginally by 1% as compared to previous year.

There were 127 reporting mines of chalk in 2011-12 as against 129 mines in 2010-11. In both years the entire production of chalk was reported by private sector mines located in Gujarat. The contribution of 14 principal producers in total production during 2011-12 was 37 percent (Table- 16 to 18).

Mine-head stocks of chalk at the end of 2011-12 was 79 thousand tonnes as against 80 thousand tonnes at the beginning of the year (Table 19).

The average daily employment of labour during 2011-12 was 1,395 as against 1,264 in the previous year. Prices of chalk are furnished in the General Review on 'Prices'.

**Table – 16 : Principal Producers of Chalk
2011-12**

Name & address of producer	Location of mine	
	State	District
Porbandar Industrial Products, Harish Mansion, Box.27, Porbandar-360 575, Gujarat.	Gujarat	Porbandar
P. Dattani & Co. M. G. Road, Porbandar-360 575, Gujarat.	Gujarat	Porbandar
Krishna Minerals Adityana - 360 545, Dist. Porbandar, Gujarat.	Gujarat	Porbandar
Saurashtra Minerals Pvt. Ltd East Kadia Plots, Porbandar-360 575, Gujarat.	Gujarat	Porbandar
Rambhai Kanabhai Sagar, At – Aditpara, Adityana- 360 545, Dist. Porbandar, Gujarat.	Gujarat	Porbandar

(Contd.)

Table - 16 (Concl'd.)

Name & address of producer	Location of mine	
	State	District
Prashant Minerals, C/o Sanjaykuma G.Khanpara, Adityana-360 545, District Porbandar, Gujarat.	Gujarat	Porbandar
Kiran Enterprise, Panjarpole Road, Porbandar-360 575, Gujarat.	Gujarat	Porbandar
Manjulaben Manjubhai, Dadhania, Near Jay Apartment, Kolki Road,"Bhavesh" Upleta - 360 490, Dist. Rajkot, Gujarat.	Gujarat	Porbandar
Rasiklal Dayabhai Patel Ranavav, Adityana-360 545, Dist. Porbandar, Gujarat.	Gujarat	Porbandar
Dolar Rai Mulji Bhai Thanki, C/o Naresh I. Thanki, Near Income Tax Office, Bhojeshwar Plot, Dist. Porbandar, Gujarat.	Gujarat	Porbandar
Shrinathji Minerals & Chemical Industries, Adityana - 360 545, Taluka- Ranavav, Dist. Porbandar, Gujarat.	Gujarat	Porbandar
Shrinathji Minerals, Adityana - 360 545, Taluka- Ranavav, Dist. Porbandar, Gujarat.	Gujarat	Porbandar
Dawoodi Pulverizing Works, 226, G.I.D.C. Estate, Porbandar – 360 577, Gujarat.	Gujarat	Rajkot
Shivam Minerals, C/o Dhirajlal Khimji Patel, Upleta, Mervadar-360 490 Dist. Rajkot, Gujarat.	Gujarat	Raklot
Patel Ramji Virji Adityana- 360 545 Dist. Porbandar, Gujarat.	Gujarat	Pobandar
Shreeji Pulverising Works, Ranavav, Adityana-360 545, Dist. Porbandar, Gujarat.	Gujarat	Porbandar

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 17 : Production of Chalk, 2009-10 to 2011-12
(By State)**

(Qty in tonnes; value in ₹'000)

State	2009-10		2010-11		2011-12	
	Quantity	Value	Quantity	Value	Quantity	Value
India	185218	71087	177197	65799	176010	66612
Gujarat	185218	71087	177197	65799	176010	66612

**Table – 18 : Production of Chalk, 2010-11 & 2011-12
(By Sector/State/Districts)**

(Qty in tonnes; value in ₹'000)

State/District	2010-11			2011-12(P)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	129	177197	65799	127	176010	66612
Private sector	129	177197	65799	127	176010	66612
Gujarat	129	177197	65799	127	176010	66612
Jamnagar	10	14413	5484	10	12727	4860
Junagadh	3	6673	2216	3	5104	1727
Porbandar	94	130087	49202	93	138788	52636
Rajkot	22	26024	8897	21	19391	7389

**Table – 19 : Mine-head Stocks of Chalk, 2011-12(P)
(By State)**

(In tonnes)

State	At the beginning of the year	At the end of the year
India	79701	79368
Gujarat	79701	79368

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Marl

Production of marl during 2011-12 was 4.14 million tonnes as compared to 4.40 million tonnes in the preceding year. The entire production of marl was reported as associated mineral with limestone in both the years by 11 mines. The entire production was from private sector mines.

Gujarat contributed 95% production and the remaining 5% was by Tamil Nadu (Table - 20 to 22).

Mine-head stock at the end of 2011-12 was 389 thousand tonnes as against 415 thousand tonnes at the beginning of the year (Table - 23).

Table – 20 : Principal Producers of Marl, 2011-12

Name and address of producer	Location of mine	
	State	District
*Ultratech Cement Ltd, Second Floor,B-Wing, Ahura Center, Mahakali Caves, Andheri (E), Mumbai- 400 093.	Gujarat	Amreli
* Ambuja Cement Limited, P.O.- Ambujanagar – 362 715, Tah.- Kodinar, Dist.- Junagadh, Gujarat.	Gujarat	Junagadh
*Gujarat Sidhee Cement Ltd, Sidheeegram-362 276, Veraval-Kodinar Highway, Tah.- Sutrapada, Dist.- Junagadh, Gujarat.	Gujarat	Junagadh
*Saurashtra Cement Ltd, Near Railway Station, Ranavav-360 560, Dist.- Porbandar, Guajrat.	Gujarat	Porbandar
*Dalmia Cement (Bharat) Ltd, Dalmiapuram-621 651, District-Tiruchirappalli, Tamil Nadu.	Tamil Nadu	Tiruchirapalli
*Madras Cement Ltd, Ramamandiram, Rajapalayam-626 117, Tamil Nadu.	Tamil Nadu	Ariyalur
*The India Cements Ltd. "Dhun Building", 827, Anna Salai, Chennai- 600 002 Tamil Nadu.	Tamil Nadu	Ariyalur

* Producing as an associated mineral with limestone.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 21 : Production of Marl, 2009-10 to 2011-12(P)
(By States)

(Qty in tonnes, value in ₹'000)

State	2009-10		2010-11		2011-12(P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	5908226	381599	4399379	307556	4143975	269024
Gujarat	4284658	245373	3738693	224314	3920395	247086
Tamil Nadu	1623568	136226	660686	83242	223580	21938

Table – 22 : Production of Marl, 2010-11 and 2011-12(P)
(By Sectors/States/Districts)

(Qty in tonnes; Value in ₹'000)

State/District	2010-11			2011-12(P)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	(11)	4399379	307556	(11)	4143975	269024
Private sector	(11)	4399379	307556	(11)	4143975	269024
Gujarat	(6)	3738693	224314	(6)	3920395	247086
Amreli	(2)	2263147	164090	(2)	2148011	165003
Junagadh	(3)	883806	49590	(3)	1304705	73671
Porbandar	(1)	591740	10634	(1)	467679	8412
Tamil Nadu	(5)	660686	83242	(5)	223580	21938
Ariyalur	(3)	458286	72243	(3)	139880	17836
Tiruchirapalli	(2)	202400	10999	(2)	83700	4102

Figures in parentheses indicate associated mines with limestone.

Table – 23 : Mine-head Stocks of Marl, 2011-12 (P)
(By States)

(In tonnes)

State	At the beginning of the year	At the end of the year
India	415235	388953
Gujarat	188828	170007
Tamil Nadu	226407	218946

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 and aerial ropeways. 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 opencast and are worked by semi-mechanised and manual mining methods.

In Andhra Pradesh, limestone production from Adilabad and Kurnool districts 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 obtains its requirements of limestone from Nandini mines in Durg district. The cement grade limestone is also produced in the region. M/s Lafarge India Ltd, Raipur, Chhattisgarh is one of the principal producers of cement grade limestone.

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

Limestone in Jammu & Kashmir is suitable for cement manufacture. In limestone bands in Anantnag district, magnesia content is low and does not exceed 1.70 percent.

In Karnataka, limestone is supplied generally to paper mills and cement plants. However, limestone of Gulbarga district, commonly known as 'Shahabad stones', is used as flag stone 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 Ferro-manganese 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, for use as a paving stone. Kota limestone is suitable for cement manufacturing and also for lime burning.

The limestone produced in Dehradun-Garhwal areas of Uttarakhand used to be 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 has been revised, vide Ministry of Mines, IBM, Notification No.T-45031/CGBM/2007(PF), dated 16.10.2009, as follows:

(i) For limestone deposits in Chhattisgarh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, Uttarakhand & Uttar Pradesh - CaO - 34% (min), MgO - 4% (max).

(ii) For limestone deposits of Andhra Pradesh, Jharkhand, Karnataka, Kerala, Odisha & Tamil Nadu - CaO - 35% (min), MgO - 4% (max), SiO₂ - 18% (max) & Alkalies - 0.5% (max).

The principal use of limestone is in the Cement Industry. Other important uses are as flux in metallurgical processes; in Glass, Ceramic, Paper, Textile and Tanning Industries; for manufacture of calcium carbide, alkali and bleaching powder; for water purification and sugar refining; in fertilizer (calcium ammonium nitrate) and as soil conditioning agent in agriculture; crushed stone for ballast and filler in concrete and asphalt; as rectangular slab in lithography. The whiting (chalk and precipitated limestone) is used as a filler in rubber, oil cloth, paint, cosmetic, tooth paste, shoe polish, etc. Limestone is also used in underground mine dusting to prevent the propagation of explosions.

Lime is prepared by heating limestone in kilns up to 1000°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 just 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. Lime kankar is used in Cement Industry.

SPECIFICATIONS

Cement Industry

Limestone containing 45% (min) CaO and above is usually preferred in the manufacture of cement. Magnesia, sulphur and phosphorus are regarded as deleterious elements. Limestone should have less than 3% magnesium oxide (MgO), maximum tolerance being 5 percent. The presence of P as P₂O₅ more than 1% slows down considerably the setting time of Portland Cement. Indian cement manufacturers prescribe that the limestone should have CaO 42% (min), Al₂O₃ 1 to 2%, Fe₂O₃ 1 to 2%, SiO₂ 12 to 16% and MgO 4% (max). 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 given in Table-24.

Table – 24 : 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) (percent)	Limiting values taking into con- sideration other types of cements, scope of beneficiation and blending (percent)
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 (CaCO_3) content in limestone should not be usually less than 90 percent. The combined SiO_2 and Al_2O_3 should not exceed 6% though up to 11.5% is allowed; MgO should be within 4% and sulphur and phosphorus as low as possible.

In Steel Melting Shop (SMS), insolubles in limestone should not exceed 4 percent. 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 2009).

Glass Industry

Glass Industry requires high calcium limestone (94.5% CaCO_3) and 97.5% of combined CaCO_3 and MgCO_3 . Iron and other colouring matters are regarded as objectionable and Fe_2O_3 should be up to 0.20% (max). For colourless glass, limestone should contain 98.5% CaCO_3 (min), iron content as Fe_2O_3 should not be more than 0.04%; and for bottle glass, Fe_2O_3 up to 0.05% is used. The BIS specifications (IS : 997 - 1973; First Amendment, Reaffirmed 2008) for limestone for use in Glass Industry are as follows:

Silica as SiO_2	2.5%
Total iron (Fe_2O_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% SiO_2 , not more than 0.95% phosphorus and other impurities not exceeding 2%. For the manufacture of bleaching powder also, lime containing 95% and above CaO is required. Total $\text{Fe}_2\text{O}_3 + \text{Al}_2\text{O}_3 + \text{MnO}_2$ should be less than 2%; MgO should be below 2% and SiO_2 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.

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 percent. 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.

The BIS specifications of limestone for chemical industries are furnished in Table - 25.

LIMESTONE AND OTHER CALCAREOUS MATERIALS

Table – 25 : Specifications of Limestone for Chemical Industry (Bleaching Powder, Caustic Soda, Calcium Carbide and Sugar Industries) (IS : 3204 - 1978;First Revision, Reaffirmed 2010)

Characteristics	Requirement in percent by mass for			
	Bleaching powder	Caustic soda	Calcium carbide	Sugar
Loss on ignition	46.0	46.0	46.0	44.0
SiO ₂ (max)	0.75	–	1.0	2.0
Fe ₂ O ₃ (max)	0.15	–	0.25	–
CaO (min)	54.00	53.0	54.0	50.0
MgO (max)	2.00	1.0	0.8	1.0
Mn ₂ O ₃ (min)	0.06	–	–	–
CO ₂ (min)	42.00	42.00	42.00	41.00
S (max)	–	–	0.1	–
P (max)	–	–	0.01	–
Al ₂ O ₃ +Fe ₂ O ₃ (max)	–	–	0.50	1.5
SiO ₂ +Al ₂ O ₃ +Fe ₂ O ₃ (max)	–	3.0	–	–

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); has been withdrawn.

INDUSTRY & CONSUMPTION

India was the second largest producing country of cement in the world after China. There were 173 large cement plants having an installed capacity of 300.21 million tonnes in 2011-12 in addition to mini and white cement plants having estimated capacity of around 6 million tonnes per annum. The total installed capacity of cement in

2011-12 was thus about 300.21 million tpy against 294.43 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 224.25 million tonnes in 2011-12 compared to 210.28 million tonnes in the preceding year.

In 2011-12, the total consumption of limestone & other calcareous minerals/ materials, as reported by different industries was 211.70 million tonnes. Cement was the major consuming industry accounting for 93% consumption, followed by iron, steel (4%) and chemical (1%). The remaining consumption was reported by sugar, paper, fertilizer, glass, metallurgy, foundry, etc. Consumption of limestone and other calcareous materials from 2009-10 to 2011-12 is given in Tables - 26(A), 26(B) and 26(C). Information on consumption of limestone in Iron & Steel industry by principal plants is given in Table - 26(D).

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table - 26 (A) : Reported Consumption of Limestone, 2009-10 to 2011-12
(By Industries)**

(In tonnes)

Industry	2009-10	2010-11(R)	2011-12(P)
All Industries	191960000	206593900	211706500
Aluminium	225200 (4)	213600 (4)	207300 (4)
Alloy steel	84500 (9)	68500 (9)	62500 (8)
Cement	179935400 (110)	191845600 (119)	196270700 (119)
Chemical	1508900 (22)	2906500 (23)	3002900 (21)
Fertilizer	149200 (5)	149800 (5)	149800 (5)
Ferro-alloys	8200 (19)	8600 (20)	8200 (20)
Foundry	24800 (27)	24500 (26)	30500 (27)
Glass	95700 (27)	112300 (28)	98000 (28)
Iron & Steel	7251000 (22)	8444700 (29)	8956500 (29)
Metallurgy	41400 (2)	41300 (2)	41300 (2)
Paper	124600 (16)	124600 (16)	121600 (16)
Sugar (e)	671500 (10)	815200 (10)	918800 (10)
Others**	1839600 (40)	1838700 (40)	1838400 (40)

Figures rounded off.

Figures in parentheses denote the number of units in organised sector reporting* consumption.

(* includes reported companies and/or estimates, whenever required).

** Include asbestos products, ceramics, explosive, lead & zinc, paint, pesticide, pharmaceutical, refractory, rubber, sponge iron, textile, vansapati and zinc.

**Table -26 (B) : Reported Consumption of Other Calcareous Minerals/Materials,
2009-10 to 2011-12
(By Industries)**

(In tonnes)

Industry	2009-10	2010-11(R)	2011-12(P)
All Industries (A+B+C+D)	23136600	25248200	26449500
(A) Cement {(i) + (ii)}	23113700(126)	25225300(107)	26426300(137)
(i) Other Calcareous Material	19857300(115)	22363100(96)	24058300(126)
B F Slag	5575800(40)	6063000(45)	5663300(40)
Fly ash/flue dust	14000900 (66)	16041600(41)	18137000(77)
CaCO ₃ sludge / Lime sludge	280600 (9)	258500 (10)	258000(9)
(ii) Other Calcareous Minerals	3256400(11)	2862200(11)	2368000(11)
Limeshell	16900 (1)	13300(1)	13300(1)
Calcareous sea sand	++(1)	++(1)	++(1)
Marble	651500 (3)	644900 (3)	654400 (3)
Marl	2588000 (6)	2204000(6)	1700300(6)
(B) Paper Limeshell	13400 (1)	13400 (1)	13400 (1)
(C) Glass B F Slag	9500 (3)	9500 (3)	9500 (3)
(D) Fertilizer/Limeshell	++(1)	++ (1)	300(1)

Figures rounded off.

Figures in parentheses denote the number of units in organised sector reporting* consumption.

(* includes reported companies and/or estimates, whenever required).

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 26 (C) : Reported Consumption of Limestone & Other Calcareous Minerals/Materials
2009-10 to 2011-12
(By Industries)**

(In tonnes)

Industry	2009-10	2010-11(R)	2011-12(P)
All Industries	215096600	246623200	248955600
Aluminium	225200 (4)	213600 (4)	207300 (4)
Alloy steel	84500 (9)	84500 (9)	78500 (9)
Cement	203049100 (109)	231829000 (123)	233485600 (117)
Chemical	1508900 (22)	2906500 (23)	3002900 (21)
Fertilizer	149200 (5)	149800 (5)	149800 (5)
Ferro-alloys	8200 (19)	8600 (20)	8300 (15)
Foundry	24800 (27)	24800 (27)	30800 (28)
Glass	105200 (27)	112300 (28)	98000 (28)
Iron & Steel	7251000 (25)	8451400 (28)	8951400 (28)
Metallurgy	41400 (2)	41300 (2)	41300 (2)
Paper	138000 (17)	138000 (17)	135000 (17)
Sugar(e)	671500 (10)	815200 (10)	918800 (10)
Others**	1839600 (39)	1848200 (43)	1847900 (42)

Figures rounded off.

Figures in parentheses denote the number of units in organised sector reporting* consumption.

(* includes reported companies and/or estimates, whenever required).

** Include asbestos products, ceramic, electrode, explosive, lead & zinc, mining machinery, paint, pesticide, pharmaceutical, refractory, rubber, sponge iron, textile, vansapati and zinc.

**Table – 26 (D) : Reported Consumption of Limestone in Iron & Steel Industry, 2009-10 to 2011-12
(By Principal Plants)**

(In tonnes)

Plant	2009-10	2010-11	2011-12
Bhilai Steel Plant	1030235	1189162	NA
Bokaro Steel Plant	886291	825376	875458
Durgapur Steel Plant	12000	56000	NA
IISCO Steel Plant	36000	36000	NA
Rourkela Steel Plant	104000	473784	515557
Visvesvaraya Iron & Steel Plant	31744	31608	44439
Visakhapatnam Steel Plant	891590	966730	NA
JSW Steel Ltd	192925	76242*	66479*
Tata Steel Ltd	1404690	1386375	NA
IDCOL, Kalinga Iron Works Ltd	15132	2807	4750
Tata Metallics	NA	38431	40608
Kirloskar Ferrous Industry Ltd	NA	42046	26334
KIOCL Ltd	24687	65460	57857
VISA Steel Plant	13880	4439	NA
Neelachal Ispat Nigam Ltd	79353	79737	74060
Jayaswal Neco Industries Ltd	96578	69651	80569
Sunflag Iron & Steel Co.Ltd	39288	25667	12696

* Salem Plant

LIMESTONE AND OTHER CALCAREOUS MATERIALS

FOREIGN TRADE

Exports

As per the foreign trade policy 2009-14 the export of limestone, lime kankar, lime shell and chalk are free. Exports of limestone increased double to 2.69 million tonnes in 2011-12 from 1.03 million tonnes in the previous year. Limestone in bulk was exported mainly to neighbouring countries, viz, Bangladesh (91%) Nepal, UK and Bhutan besides other countries. During the same period, exports of chalk also increased marginally to 759 tonnes from 688 tonnes in the previous year. Chalk was exported mainly to Nepal.

Exports of bleaching powder were 10,515 tonnes in 2011-12 as compared to 20,686 tonnes in the previous year. Bleaching powder was exported mainly to Sri Lanka, Algeria and Kenya (9% each), Ghana and Ivory Coast (6% each) besides other countries.

In 2011-12 about 1,266 tonnes of calcium carbide was exported as against 961 tonnes in the previous year mainly to UAE and USA (Tables - 27 to 30).

Imports

As per the foreign trade policy 2009-14, the import of limestone, lime kankar, lime shell and chalk are free. Imports of limestone increased drastically to 8.56 million tonnes in 2011-12 from 5.04 million tonnes in the previous year. Imports of chalk in 2011-12 were 1,884 tonnes as against 3,185 tonnes in the previous year. Limestone was imported mainly from UAE (64%) and Oman (19%), while chalk was imported mainly from Malaysia (64%) and China (16%) besides other countries.

Imports of calcium carbide increased slightly to 56,500 tonnes in 2011-12 from 56,479 tonnes in the previous year. Calcium carbide was imported mainly from China (57%) and Bhutan (36%). In 2011-12, imports of bleaching powder were 108 tonnes as against 72 tonnes in the previous year (Tables - 31 to 34).

Table – 27 : Exports of Limestone (By Countries)

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	1034830	683781	2691026	2537858
Bangladesh	979808	358313	2450813	1894744
UK	11657	79688	19593	149009
Nepal	8613	20237	123840	77714
Belgium	3244	29648	11615	77224
Bhutan	15005	58682	15128	64108
Sudan	29	159	1779	35574
Netherlands	941	8540	4253	33319
France	2002	14816	2620	29959
USA	1101	13907	2568	27240
Italy	1252	16566	2400	22526
Other countries	11178	83225	56417	126441

Table – 28 : Exports of Chalk (By Countries)

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	688	2496	759	3432
Nepal	368	1343	626	2854
Ethiopia	-	-	24	123
Malaysia	-	-	22	93
Egypt	8	44	9	75
Kenya	1	11	6	56
Tanzania	2	15	10	41
Oman	-	-	2	40
Ghana	-	-	18	34
Sri Lanka	++	4	1	20
Nigeria	11	42	2	19
Other countries	298	1037	39	77

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 29 : Exports of Bleaching Powder
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	20686	814663	10515	541756
Kenya	1547	78156	914	64734
Ivory Coast/Cote-D' Ivoire	759	41385	674	47882
Algeria	1054	46923	942	47699
Ghana	550	27778	585	35874
Cameroon	877	51801	343	25324
Sri Lanka	1306	22204	969	22948
Dominican Rep.	443	26373	332	22939
Peru	330	16236	323	19825
Egypt	1139	61729	321	19416
Madagascar	242	12224	315	17360
Other countries	12439	429854	4797	217755

**Table – 30 : Exports of Calcium Carbide
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	961	34768	1266	59224
UAE	744	25456	722	31559
USA	-	-	255	10732
Saudi Arabia	-	-	146	6897
Oman	146	6834	51	2771
Bahrain	-	-	39	1837
Italy	-	-	++	1777
Bangladesh	34	1504	25	1475
Congo Rep. of	-	-	22	1173
Egypt	-	-	2	742
Ethiopia	++	17	4	248
Other countries	37	957	++	13

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 31 : Imports of Limestone
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	5035678	7043286	8557181	11890531
UAE	2345706	2941381	5470751	6698764
Oman	1935210	2326287	1663032	1855431
Malaysia	186458	629885	260059	850742
Thailand	329728	479835	222755	501857
Vietnam	62350	294312	96424	490660
China	36892	49686	192178	363923
Egypt	38195	124501	47649	173838
Korea	261	1686	105068	159175
Philippines	50661	69186	126912	151757
Australia	18759	33597	112804	146078
Other countries	31458	92930	259549	498306

**Table – 32 : Imports of Chalk
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	3185	17140	1884	15919
Malaysia	1786	8006	1200	6930
France	138	2250	146	2615
China	39	825	300	2469
Korea	18	1020	68	2448
Germany	-	-	114	601
Japan	8	411	12	262
Italy	4	198	4	259
Egypt	926	3006	27	114
UK	13	165	2	97
Hong Kong	++	11	10	67
Other countries	253	1248	1	57

LIMESTONE AND OTHER CALCAREOUS MATERIALS

**Table – 33 : Imports of Calcium Carbide
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	56479	1904603	56500	2150700
China	31625	986450	31975	1165076
Bhutan	21038	787431	20467	839473
South Africa	3749	128363	813	28886
Korea	-	-	423	15929
Thailand	-	-	314	12481
USA	-	-	314	11585
Japan	-	-	314	11167
Germany	-	-	267	9491
Malaysia	23	802	270	9120
Cameroon	-	-	202	8007
Other countries	44	1557	1141	39485

**Table – 34 : Imports of Bleaching Powder
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	72	3156	108	4450
China	59	3000	86	3581
Chinese				
Taipei/Taiwai	-	-	22	864
UK	-	-	++	5
Other countries	13	156	-	-

FUTURE OUTLOOK

India has huge resources of limestone distributed over different parts of the country. India 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.

As per the Report of the Working Group, Planning Commission of India, the total limestone requirement during 12th Plan (2012-2017) with growth scenario of cement @ 10%, 11% and 12% for the respective GDP growth of 8%, 9% and 10% is projected at 3,163 million tonnes, 3,253 million tonnes and 3,385 million tonnes, respectively.