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DOLOMITE

(ADVANCE RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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Dolomite ($CaCO_3.MgCO_3$) theoretically contains $CaCO_3$ 54.35% and $MgCO_3$ 45.65% or CaO 30.4%, MgO 21.9% and CO_2 47.7%. However, in nature, dolomite is not available in this exact proportion. Hence, in commercial parlance, the rock containing 40-45% $MgCO_3$ is usually called dolomite.Dolomite rock which contains in addition to dolomite either Calcite or a mixture of Calcite & Magnesite are called " Dolomitic Limestone" It is grouped under flux & construction minerals and is important for iron & steel and ferro-alloys industries.

RESOURCES

Dolomite occurrences are widespread in the country. As per UNFC system, as on 1.4.2010 total resources of dolomite are placed at 7,730 million tonnes, out of which 738 million tonnes are placed under reserves category and the balance 6,992 million tonnes under remaining resources category. Gradewise, BF/sintering grade accounts for 26% resources followed by SMS (17%), refractory (9%), BF & SMS mixed (4%) and glass (3%). Others, unclassified, not-known and BF, SMS & refractory mixed grades together account for the remaining 41% resources. Major share of about 91% resources were distributed in eight states: namely, Madhya Pradesh (29%), Andhra Pradesh (15%), Chhattisgarh (11%), Odisha % & Karnataka (9% each), Gujarat (7%), Rajasthan (6%) and Maharashtra (5%). The remaining 9% resources are distributed in Arunachal Pradesh, Jharkhand, Haryana, Sikkim, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal. Gradewise and Statewise reserves/resources of dolomite are given in Table-1.

EXPLORATION & DEVELOPMENT

In 2013-14, exploration activities were undertaken by the State Directorate of Geology & Mining, Chhattisgarh and by GSI in Himachal Pradesh. Details of exploration activities for dolomite are furnished in Table- 2.

PRODUCTION AND STOCKS

The production of dolomite in 2013-14 at 7,109 thousand tonnes, registered a decrease of 2% as compared to the previous year.

There were 173 reporting mines in 2013-14 as against 197 in the previous year. Besides, production of dolomite was reported by 54 associated mines in 2013-14 as against 47 in previous year. About 55% of total production was contributed by 15 principal producers. About 23% production of dolomite was also reported as an associated mineral with asbestos, barytes, clay (others), limestone, shale and steatite. Six mines producing more than 2 lakh tonnes annually accounted for 36% of the total production in 2013-14.

The share of public sector in 2013-14 was 29%same as in the previous year. Chhattisgarh, the leading producing state of dolomite accounted for 37% of total production in 2013-14, followed by Andhra Pradesh (19%), Odisha & Karnataka (9% each) and Madhya Pradesh (8%). The remaining 18% was jointly shared by Gujarat, Jharkhand, Maharashtra and Rajasthan. (Tables- 3 to 6)

Mine-head stocks of dolomite at the end of the year 2013-14 was 2,509 thousand tonnes as against 2,269 thousand tonnes in the previous year. (Table-7)

The average daily employment of labour in 2013-14 was 3,412 as against 3,986 in the previous year. The prices of dolomite are furnished in General Review on 'Prices'.

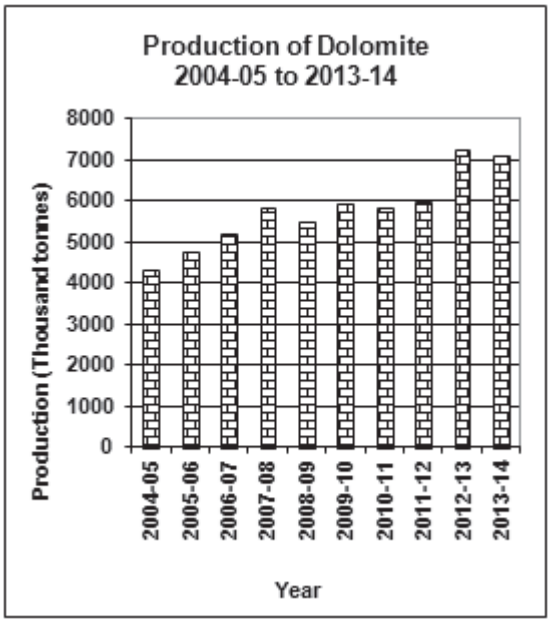

Table – 1 : Reserves/Resources of Dolomite as on 1.4.2010
(By Grades/States)

(In '000 tonnes)

Grade / State	Reserves				Remaining resources								
	Proved STD111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334	Total (B)	Total resources (A+B)
		STD121	STD122			STD221	STD222						
All India : Total	**431567**	**157442**	**149176**	**738185**	**149971**	**227173**	**316967**	**268726**	**687617**	**5189186**	**152732**	**6992372**	**7730557**
By Grades													
B.F./Sintering	207281	83881	25479	316641	45429	43062	113656	164974	408117	864387	32000	1671625	1988266
S.M.S.(O.H.)	44650	7846	15066	67562	23166	6920	21150	17629	47059	863949	341	980214	1047776
S.M.S.(L.D.)	14461	22526	61720	98707	692	5345	13778	7077	6253	142997	288	176430	275137
S.M.S.(O.H.& L.D mixed)	41180	6856	1683	49719	1938	39432	6729	30718	4000	184201	969	267987	317706
B.F. & S.M.S. mixed	52637	574	2267	55478	-	18469	1086	17340	33998	204851	-	275744	331222
Refractory	17847	3320	7043	28210	31536	67633	45021	-	-	524101	-	668291	696501
B.F., S.M.S.& Refractory	-	9215	10662	19877	-	1797	1258	-	-	5387	-	8442	28319
Glass	6855	12204	4692	23751	7352	21187	40019	2093	1297	129269	-	201217	224968
Others	33437	9970	13371	56778	6069	2289	18228	20651	46548	81251	23354	198390	255168
Unclassified	6160	745	4507	11412	30971	18471	34523	8162	58389	614525	-	765041	776453
Not-known	7059	307	2685	10051	2819	2570	21519	82	81956	1574268	95780	1778994	1789045
By States													
Andhra Pradesh	55507	2082	10708	68297	50324	2851	29135	554	132589	896855	1848	1114156	1182453
Arunachal Pradesh	-	-	-	-	-	-	-	-	204	77633	-	77837	77837
Chhattisgarh	41628	12984	6225	60837	19289	50384	24355	150795	24837	514235	1950	785845	846682
Gujarat	20130	1962	9803	31895	9556	26745	77285	20263	63780	295948	-	493577	525472
Haryana	-	-	-	-	5371	5149	3722	-	-	15247	-	29489	29489
Jharkhand	22700	-	-	22700	-	350	-	-	54	18330	-	18734	41434
Karnataka	86077	31399	10889	128365	18585	7826	15391	8519	17578	465852	-	533751	662116
Madhya Pradesh	26637	28553	27244	82434	17893	85680	67042	17250	291229	1601188	115087	2195369	2277803
Maharashtra	22741	11987	13325	48053	5612	1028	3569	7000	18050	337511	-	372770	420823
Odisha	119853	44549	2710	167112	19558	27887	76634	40387	39474	268930	33063	505933	673045
Rajasthan	34309	9601	20250	64160	3559	5598	19484	16502	25480	324604	784	396011	460171
Sikkim	-	-	-	-	-	-	-	-	-	2756	-	2756	2756
Tamil Nadu	-	-	-	-	-	-	-	2010	135	-	-	2145	2145
Uttar Pradesh	-	-	-	-	-	12622	-	3500	-	66230	-	82352	82352
Uttarakhand	1985	1798	22	3805	224	1052	349	1946	981	199592	-	204144	207949
West Bengal	-	12528	48000	60528	-	-	-	-	73226	104275	-	177501	238029

Figures rounded off.

Table – 2 : Details of Exploration Activities for Dolomite, 2013-14

Agency State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI							
Himachal Pradesh	Shimla & Mandi	1:50,000 1:12,500	300 110	-	-	100	Reconnaissance stage investigation (G-4) was carried out for delineation and assessment of limestone/dolomite band in different member of Shali Group. Shali group comprises of carbonate rocks with purple, olive green, grey phyllitized shale parting and white & pink/purple quartz arenites. Analytical results of the collected sample are awaited. The invesigation has been completed.
DMG							
Chhattisgarh							
Janjgir -Champa	N/v Pacheri Bhalwahi	1:50,000 1:4000	120 2.10	-	1236.65	905	Objective of exploration was to search new locations of limestone. Area is occupied by dolomite of Chandi formation of Hirri sub basin of Chhattisgarh supergroup. The dolomite forms inlier with pink stromatolitic limestone with shaly intercalation. Dolomite is grey & sub horizontally bedded. Deposit of dolomite were demarcated around village Pacheri-Bhalwahi. About 30 million tonnes of dolomitic resources were estimated under 332 category of UNFC. The prospecting work has been completed.

Table – 3 : Principal Producers of Dolomite, 2013 –14

Name & address of producer	Location of mine	
	State	District
Steel Authority of India Ltd, Ispat Bhavan, P. B. No. 3049, Lodhi Road, New Delhi – 110 003.	Chhattisgarh Jharkhand	Bilaspur Garhwa
*Bisra Stone Lime Co. Ltd, A.G.,104, Sourav Abason, Sector-II, Salt Lake City, Kolkata-700 091.	Odisha	Sundergarh
Rashtriya Ispat Nigam Ltd, Room No. 381, Main Admn.Building, C Block, II floor, North Wing, Visakhapatnam – 530 031, Andhra Pradesh.	Andhra Pradesh	Khammam

(Contd.)

(Table -3 Concld.)

Name & address of producer	Location of mine	
	State	District
Sri Balaji Metals & Minerals Pvt. Ltd, 23 A, Netaji Subhash Road, 3rd Floor, Suit No. 6, Kolkata - 700 001 West Bngal.	Chhattisgarh	Janjgir-Champa
*South West Mining Ltd, Talur Cross, Vidya Nagar (Post), Torangallu, Sandur - 583 275, Karnataka.	Andhra Pradesh	Kurnool
Manish Singh Banafer, D/22, Vidya Nagar, Near Shiv Mandir, Bilaspur, Chhattisgarh- 495 001.	Chhattisgarh	Janjgir- Champa
Mrityunjay Singh Sisodiya, Podhishankar, Janjgir, Janjgir-Champa, Chhattisgarh.	Chhattisgarh	Janjgir- Champa
Commercial Stone Supply Co., Station Road, Chhota Udepur- 391 165, Vadodara, Gujarat.	Gujarat	Vadodara
* Vivek Lal H 1, 7/8 Area, Civil Township, Raurkela -769 004, Sundergarh, Odisha.	Odisha	Sundergarh
#Khetan Business Corpn Pvt. Ltd, Old Bus Stand, Nathdwara, Rajsamand - 323 301, Rajasthan.	Rajasthan	Rajsamand
Mukesh Bansal, Pranami Plywood, Kotra Road, Raigarh- 496 001, Chhattisgarh.	Chhattisgarh	Janjgir- Champa
Dolomite Mining Corpn, Shakti Road, Baradwar, Sakti- 495 687, Chhattisgarh.	Chhattisgarh	Janjgir- Champa
Mysore Minerals Ltd, 39-M.G. Road, Bengaluru – 560 001, Karnataka.	Karnataka	Bagalkot
A. N. Patnaik, Block H/2, Civil Township, Raurkela-769 004, Sundergarh, Odisha.	Odisha	Sundergarh
Ashish Goyal, O.P Jindal Marg, Jagatpur, Raigarh - 496 001, Chhattisgarh.	Chhattisgarh	Raigarh

** Associated mine with limestone*
 # Associated with steatite.

Table – 4 : Production of Dolomite, 2012-13 & 2013-14 (P) (By Sector/State/District)

(Qty. in tonnes; value in ₹'000)

State/District	2012-13			2013-14 (p)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	**197(47)**	**7233958**	**2618906**	**173(54)**	**7108696**	**2576921**
Public sector	6(1)	2072873	1168590	6(1)	2061216	1196902
Private sector	191(46)	5161085	1450316	167(53)	5047480	1380019
Andhra Pradesh	**41(20)**	**1547613**	**542903**	**42(23)**	**1376901**	**448911**
Anantapur	14 (8)	53913	6833	15 (6)	75228	10119
Cuddapah	5	37782	7838	5(4)	43200	11770
Khammam	3(1)	691283	357571	3	570042	280737
Kurnool	18(11)	764635	170661	18(13)	685531	145560
Warangal	1*	-	-	1	2900	725
Chhattisgarh	**40**	**1970136**	**573523**	**40**	**2594991**	**897336**
Bilaspur	18	1153058	348073	20	1392654	550902
Durg	5	36070	7471	4	20832	6861
Janjgir-Champa	10	555205	138826	8	801596	220178
Raigarh	5	212737	76218	7	369710	117355
Raipur	2	13066	2935	1	10199	2040
Gujarat	**24(1)**	**499122**	**103159**	**13(1)**	**482765**	**103541**
Bhavnagar	(1)	1050	315	(1)	4750	1425
Vadodara	24	498072	102844	13	478015	102116
Jharkhand	**1**	**301185**	**434008**	**1**	**267146**	**354025**
Garhwah	1	301185	434008	1	267146	354025
Karnataka	**17(14)**	**728186**	**179331**	**16(14)**	**640815**	**206016**
Bagalkot	14(12)	682063	168082	13(12)	594164	189459
Belgaum	2(1)	44603	10863	2 (1)	38900	14430
Mysore	1	1020	275	1	1001	277
Tumkur	(1)	500	111	(1)	6750	1850
Madhya Pradesh	**65(1)**	**655858**	**119765**	**52(2)**	**565399**	**124855**
Balaghat	2	3388	525	2	8059	1029
Chhindwara	4	216091	28791	6	148970	32252
Jabalpur	4	25316	5546	4	33173	7684
Jhabua	8	47581	9409	6	43733	8897
Katni	5(1)	34767	11140	7(1)	127133	34624
Khargaon(W.Nimar)	1	16530	4546	1	18608	4446
Mandla	35	308924	59361	24	184181	35712
Narsimhapur	1	633	98	(1)	846	106
Sagar	2	1641	187	1	571	86
Seoni	3	987	162	1	125	19
Maharashtra	**4(1)**	**314562**	**99538**	**4(2)**	**222937**	**56992**
Chandrapur	1	75474	21208	1	81500	23026
Nagpur	2	1561	465	2	1092	322
Yavatmal	1(1)	237527	77865	1 (2)	140345	33644
Odisha	**4(4)**	**992470**	**521436**	**4(3)**	**657211**	**327661**
Sundergarh	4(4)	992470	521436	4(3)	657211	327661
Rajasthan	**1(6)**	**224826**	**45243**	**1(9)**	**300531**	**57584**
Rajsamand	(4)	96224	19964	(6)	180937	28400
Udaipur	1(2)	128602	25279	1(3)	119594	29184

Figures in parentheses indicate number of associated mines with baryte, clay (others), iron ore, limestone, shale and steatite.
** Only despatches were made from this mine.*

Table – 5 : Production of Dolomite, 2011-12 to 2013-14 (P)

(Qty in tonnes; value in ₹'000)

State	2011-12		2012-13		2013-14 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	**5968554**	**1737037**	**7233958**	**2618906**	**7108696**	**2576921**
Andhra Pradesh	1299126	431236	1547613	542903	1376901	448911
Chhattisgarh	1624834	363761	1970136	573523	2594991	897336
Gujarat	334600	61149	499122	103159	482765	103541
Jharkhand	206938	185204	301185	434008	267146	354025
Karnataka	560189	97368	728186	179331	640815	206016
Madhya Pradesh	460494	110094	655858	119765	565399	124855
Maharashtra	127857	33125	314562	99538	222937	56992
Odisha	1114724	414535	992470	521436	657211	327661
Rajasthan	239639	40550	224826	45243	300531	57584
Uttarakhand	153	15	-	-	-	-

Table – 6 : Production of Dolomite, 2012-13 & 2013-14 (P)
(By Frequency Groups)

(Qty. in tonnes)

Production group	Number of mines		Production for the group		Percentage in total production		Cumulative percentage	
	2012-13	2013-14 (P)	2012-13	2013-14 (P)	2012-13	2013-14 (P)	2012-13	2013-14 (P)
All Groups	**197(47)**	**173(54)**	**7233958**	**7108696**	**100.00**	**100.00**	**–**	**–**
Up to 1000	42(14)	36(15)	16857	19215	0.23	0.27	0.23	0.27
1001-5000	35(13)	27 (11)	123543	101787	1.70	1.43	1.93	1.70
5001-10000	27 (6)	20 (7)	239880	197799	3.32	2.78	5.25	4.48
10001-50000	68(6)	65(13)	1596962	1824003	22.08	25.66	27.33	30.14
50001-200000	21 (6)	21 (6)	2517525	2380417	34.80	33.49	62.13	63.63
Above-200000	4 (2)	4 (2)	2739191	2585475	37.87	36.37	100.00	100.00

Figures in parentheses indicate number of associated mines with asbestos, barytes, clay (others), iron ore, limestone, shale and steatite.

Table – 7 : Mine-head Stocks of Dolomite, 2013-14 (P)

(In tonnes)

State	At the beginning of the year	At the end of the year
India	**2268975**	**2509078**
Andhra Pradesh	354942	331058
Chhattisgarh	291986	351554
Gujarat	16522	9556
Jharkhand	28971	12544
Karnataka	237352	245949
Madhya Pradesh	251035	229084
Maharashtra	310440	360042
Odisha	636985	594015
Rajasthan	140742	375276

MINING AND MARKETING

Dolomite mines are generally worked by opencast method of mining. Manual working is in vogue in most of the mines. However, a few mines are semi-mechanised.

Steel plants draw major supplies of dolomite for use as a flux and also as a refractory material. The requirement of low silica dolomite is increasing in steel plants at Bhilai, Rourkela, Visakhapatnam and Jamshedpur. However, the supply of such materials from indigenous sources is posing a problem. Therefore, Bokaro, Rourkela, Durgapur and Jamshedpur steel plants are drawing supplies of low silica dolomite from Bhutan for use in tar-bonded refractory bricks required for lining of LD furnaces and also for fluxing purposes.

Bhilai, Bokaro, Rourkela, Jamshedpur, Visakhapatnam and Bhadravati steel plants have captive mines. Besides, these plants draw supplies from private parties. Dolomite produced from Tulsidamar mine in Garhwa district, Jharkhand, is used mainly by Bokaro Steel Plant.

Dolomite produced in Tumkur district of Karnataka is supplied to the ferro-manganese plants at Dandeli, Uttar Kannada district. The VISP's steel plant at Bhadravati receives its supplies from Nerelekere mine in Bagalkot, Karnataka.

Dolomite of Baradwar and Hirri areas in Chhattisgarh is supplied to the steel plants at Bhilai, Bokaro and Rourkela besides foundry and glass manufacturing units. Birmitrapur, Panposh and Gomardih areas of Sundergarh district, Odisha, supplied dolomite to iron and steel plants at Durgapur, Rourkela, Burnpur and Jamshedpur. Dolomite from this region is also used by the ferro-manganese plants at Joda and Rayagada in Odisha. Low-silica dolomite from Jayanti area in Jalpaiguri district of West Bengal is supplied mainly to steel plants at Durgapur and Jamshedpur.

In Odisha and Rajasthan, dolomite is supplied to the foundry and grinding units. The production from Vadodara district, Gujarat, is used for making chips and tiles. In Gujarat and Maharashtra,

dolomite is used for making potteries and in ferro-alloys industry.

Dolomite produced in Jhabua district, Madhya Pradesh, is utilised by fertilizer, tile-making and grinding units. Dolomite of Jabalpur and Mandla districts is supplied to chips manufacturing units at Katni and Bhilai, respectively.

USES

Dolomite after calcination is used for refractory purposes (as a substitute of magnesite refractories) in linings of furnaces like basic open-hearth steel furnaces and basic Bessemer converters.

High purity dead-burnt dolomite bricks are required for lining LD furnaces, while mini-steel plants generally require dolomite for fettling and refractory purposes. Like limestone, dolomite is used as a flux in iron & steel, ferro-alloys and glass works. Few steel plants have dispensed with the use of dolomite in blast furnaces and its use in the preparation of self-fluxing sinters is found adequate for blast-furnace charge.

It is useful in the recovery of magnesia and also in the manufacture of magnesium metal; for the manufacture of basic magnesium carbonate (termed 'technical carbonate'), 'block magnesia' or 'magnesia alba' used in pipe and boiler coverings as heat insulation, in pharmaceutical, rubber, chemical industries, paper, leather, glass, potteries and high-magnesium limes. In agriculture, it is used as a soil conditioner to correct acidity. It finds use as a filler in fertilizers, paints & varnishes, and for supression of dust in coal mines. It is also used as a building stone and in the making of flooring tiles as chips & powder.

SPECIFICATIONS

Generally, insolubles like SiO_2, Fe_2O_3 and Al_2O_3 are considered deleterious constituents of dolomite for any industrial use. It is essential that these insolubles should be as low as possible. High purity dolomite with less than one percent insolubles is preferred for making refractory bricks which are used in the lining of LD furnaces.

Similarly, high-grade dolomite containing low iron (less than 0.15%) is required in glass industry. The (IS: 997-1973; First Revision; Reaffirmed 2008) specifications of dolomite used in glass industry. The general specifications of dolomite consumed in different steel plants are given in Table-8. Specifications for flux grade dolomite for use in iron & steel industry have been revised and are prescribed in IS : 10346 - 2004 (second revision, Reaffirmed 2009), while specification of dolomite for refractory industry are prescribed in IS : 14296 - 1995 (Reaffirmed 2010).IS: 15366 - 2003 (Reaffirmed 2009) lays down the specifications of dolomite for paint industry.

CONSUMPTION

Dolomite is consumed by iron & steel, ferro-alloys, fertilizer, glass, alloy steel and other industries. The total consumption of dolomite in 2013-14 was 6. 79 million tonnes. It slightly increased in the year 2013-14, mainly in sponge iron industry. Iron & steel industry was the major consumer of dolomite in 2013-14 accounting 79%, followed by sponge iron (9%), refractory (5%) and cement & ferro-alloys (2% each). The remaining quantity was utilised by other industries, such as alloy steel, glass, fertilizer, paint, etc. (Table - 9)

Table – 8 : General Specifications of Dolomite Consumed in Different Steel Plants

(In Percent)

Plant	Constituent	SP/BF	SMS	Refractory
Bhilai Steel Plant	MgO	19 (min)	19 (min)	19 (min)
	CaO	29 (min)	29 (min)	29 (min)
	SiO_2	4 (max)	3.5 (max)	3.5 (max)
	Size	10-60 mm	10-30 mm	30-60 mm
Bokaro Steel Plant	MgO	16.5-22.0	–	–
	CaO	23.2-34.8	–	–
	SiO_2	1.0-20.0	–	–
	Size	25-75 mm	30-50 mm	5-25 mm
Rourkela Steel Plant	MgO	19 (min)	20 (min)	21 (min)
	SiO_2	–	2.5 (max)	1.5 (max)
	Al_2O_3	–	1.5 (max)	0.75 (max)
	Fe_2O_3	–	1.0 (max)	1.0 (max)
	AI	8 (max)	–	–
	Size	up to 6 mm	40 to 80 mm	–
Durgapur Steel Plant	MgO	19.5 (min)	20 (min)	–
	CaO	–	30-35	–
	SiO_2	6 (max)	1.5 (max)	–
	Al_2O_3	–	0.8 (max)	–
	Fe_2O_3	–	1.0 (max)	–
	AI	10 (max)	–	–
	LOI	–	44.0	–
	Size	15-50 mm	30-60 mm	–
IISCO Steel Plant	MgO	19.5 (min)	20.0 (min)	–
	SiO_2	–	1.5 (max)	–
	Size	25-75 mm	3 - 20 mm	–
Tata Steel Ltd	MgO	20 (min)	20 (min)	20 (min)
	SiO_2	–	3.45	1.7 (max)
	AI	6 (max)	6 (max)	1.5 (max)
	Size	20-75 mm	25-50 mm	5-25 mm
Visvesvaraya Iron & Steel Plant	MgO	–	21-22	–
	CaO	–	30-31	–
	SiO_2	–	1-1.70	–
	Size	–	10-50 mm	–
Visakhapatnam Steel Plant	MgO	18.0 (min)	21.0 (min)	–
	CaO	28.0 (min)	30.0 (min)	–
	SiO_2	4.0 (max)	1.0 (max)	–
	LOI	44.95	46.00	–
	Size	6-80 mm	25-50 mm & 5-25 mm	–
JSW Steel Ltd	CaO + MgO	–	>45	–
	MgO	–	>19	–
IDCOL, Kalinga Iron Works	MgO	19.50 (min)	–	–
	AI	8.00 (max)	–	–
	Size	25-75 mm	–	–
Kirloskar Ferrous Industries Ltd	MgO	19 (min)	–	–
	CaO	28 (min)	–	–
	SiO_2	3 (max)	–	–
	Al_2O_3	1 (max)	–	–
	P	0.05 (max)	–	–
	Size	10-40 mm	–	–
Visa Steel Ltd	CaO	28% (min)	–	–
	Size	4-8 mm and 10-50 mm	–	–
KIOCL Ltd	MgO	19.0 (min)	–	–
	CaO	29.0 (min)	–	–
	SiO_2	3.5 (max)	–	–
	LOI	43.0 (min)	–	–
	Size	10-40 mm		
Neelachal Ispat Nigam Ltd	MgO	19.5 (min)	–	–
	Size	Up to 60 mm	–	–

Note: *SP: Sinter Plant; BF: Blast Furnace; SMS: Steel Melting Shop; AI: Acid Insolubles*

Table - 9: Consumption of Dolomite 2011-12 to 2013-14 (P)

(By Industries)

(In tonnes)

Industry	2011-12	2012-13(R)	2013-14(P)
All Industries	**6554200**	**6786000**	**6794300**
Alloy steel	53800(5)	53800(5)	53800(5)
Cement	127900(5)	124200(5)	124200(5)
Ceramic	20200(6)	20200(6)	20200(6)
Ferro-alloys	134500(30)	136700(30)	137500(32)
Fertilizer	10500(4)	8900(4)	8900(4)
Glass	109900(32)	89200(32)	101800(32)
Iron & steel 1/	5312900(40)	5355200(43)	5385700(43)
Paint	29300(12)	29300(12)	29300(12)
Refractory	213400(3)	375400(4)	321300(4)
Sponge iron	535700(65)	587300(72)	605800(73)
Others (Chemical, electrical, electrode and rubber)	5600(14)	5800(14)	5800(14)

Figures rounded off. Figures in parentheses denote the number of units in organised sector reporting consumption.
**Includes actual reported consumption and/or estimates made wherever required.*
1/ The figures for iron & steel and pelletisation (iron & steel) added.

FOREIGN TRADE

Exports

Exports of dolomite increased marginally to 32,511 tonnes in 2013-14 from 29,007 tonnes in 2012-13. Exports were mainly to Nepal (55%), Bangladesh (35%) and Malaysia, Oman & UAE (2% each) in 2013-14. (Table - 10)

Imports

Imports of dolomite increased considerably to 25,11,602 tonnes in 2013-14 from 18,59,996 tonnes in 2012-13. Imports were mainly from UAE (55%), Thailand (27%)and Philippines (8%). (Table - 11).

Table – 10 : Exports of Dolomite
(By Countries)

Country	2012-13		2013-14	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**29007**	**133290**	**32511**	**125328**
Nepal	10414	43063	18027	53108
Bangladesh	9669	36045	11477	51720
Malaysia	5330	36026	555	4410
Oman	561	4603	598	3830
UAE	860	3947	621	2756
Nigeria	398	2022	244	2183
New Zealand	135	873	270	1740
Singapore	223	1400	176	1175
UK	-	-	23	853
Indonesia	-	-	173	752
Other countries	1417	5311	347	2801

Table – 11 : Imports of Dolomite
(By Countries)

Country	2012-13		2013-14	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**1859996**	**2529066**	**2511602**	**3736522**
UAE	1219029	1495884	1375609	1819321
Thailand	495863	659164	891867	1228244
Philippines	136890	180225	209800	286320
Italy	6921	180213	7870	237458
Vietnam	108	302	23932	151687
Spain	315	2820	505	8905
Bhutan	-	-	1839	1007
UK	41	685	60	994
Turkey	-	-	75	981
Norway	6	363	8	710
Other countries	823	9410	37	895

FUTURE OUTLOOK

Over 95% of the total production of dolomite finds outlet mainly in iron & steel and allied industries. The importance of high purity dead-burnt dolomite bricks for lining LD furnaces has gained ground due to LD process of steel making. At the same time, a few of the steel plants have dispensed with the use of dolomite pin blast furnace. Mini-steel plants generally require dolomite for fettling and refractory purpose only.

The resources of the refractory grade dolomite in the country are meagre and this type of material is in short supply but very much required for making tar-bonded dolomite bricks. Therefore, intensive search is needed in non-Himalayan regions for locating deposits of massive non-crystalline dolomite, containing less than 2.5% R_2O_3 for use in tar-dolomite bricks required for lining of LD steel furnaces. The Sub- Group - II of the Working Group on Minerals for the 12th Plan has recommended the exploration of low silica dolomite in the states of Andhra Pradesh and Odisha which may be initiated by the State DGMs.

The Sub-Group has estimated the apparent domestic demand of dolomite at about 9.46 million tonnes at 9% growth rate by 2016-17.