

DOLOMITE



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DOLOMITE

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**GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES**

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Dolomite ($\text{CaCO}_3 \cdot \text{MgCO}_3$) 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. It is grouped under flux and 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 38% resources. Major share of about 91% resources was distributed in eight states: namely, Madhya Pradesh (29%), Andhra Pradesh (15%), Chhattisgarh (11%) Odisha and 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 2011-12, DMG Karnataka, DMG Rajasthan and DMG Odisha carried out exploration in Tumkur district, Karnataka, Udaipur district in Rajasthan and Sundergarh district in Odisha, respectively. MECL carried out exploration in Rupa Block in West Kameng district in Arunachal Pradesh. Details of exploration activities for dolomite are furnished in Table- 2.

PRODUCTION AND STOCKS

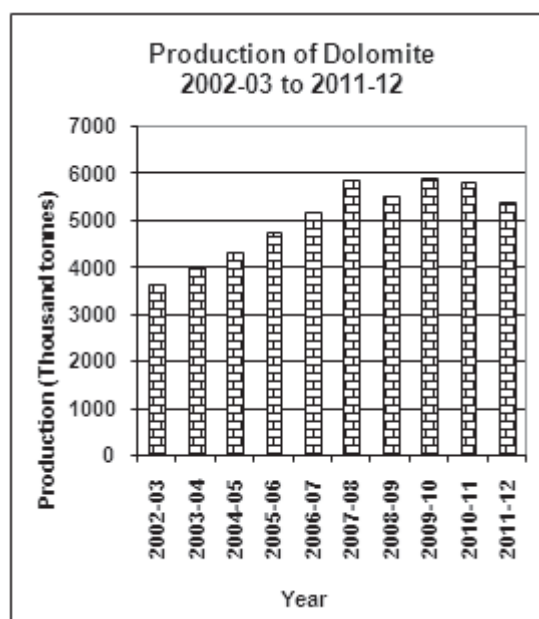
The production of dolomite in 2011-12 at 5,417 thousand tonnes registered a decrease of 7% as compared to that in the previous year due to shortage of labour and pending environmental clearance for certain mines.

There were 165 reporting mines in 2011-12 as against 136 in the previous year. Besides, production of dolomite was reported by 50 associated mines in 2011-12 as against 47 in previous year. About 65% of total production was contributed by 12 principal producers. About 21% production of dolomite was also reported as an associated mineral primarily with iron ore, kaolin, limestone, magnesite and steatite. Five mines producing more than 2 lakh tonnes annually accounted for 50% of the total production in 2011-12.

The share of public sector in 2011-12 was 40% as against 45% in the previous year. Chhattisgarh, the leading producing state of dolomite accounted for 30% of total production in 2011-12, followed by Odisha (22%), Andhra Pradesh (18%), Karnataka (10%) and Madhya Pradesh (6%). The remaining 14% was jointly shared by Gujarat, Jharkhand, Maharashtra, Rajasthan and Uttarakhand (Tables- 3 to 6).

Mine-head stocks of dolomite at the end of the year 2011-12 was 2,036 thousand tonnes as against 1,732 thousand tonnes at the beginning of the year (Table-7).

The average daily employment of labour in 2011-12 was 2,894 as against 3,047 in the previous year. The price 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				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	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.

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

Agency State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
DMG Karnataka	N/v Melanahalli Tumkur	-	-	1	65.50	50	Reserves were not estimated.
DMG Rajasthan	N/v Malanwesa, Chitawa 1:10,000 Chanpakhar	1:50,000 10	100	-	-	16	Inferred reserves of low grade to marginal cement grade
Udaipur	Hatola, Jhalawar	1:2000	2				limestone were calculated at about 1.63 MT.
Kota	N/v Lalahera, Mandap, Majra, Jhanpariya, Saderi and Ramri teh- Sangod	1:50,000 1:10,000 1:2000	100 10 1	-	-	21	Inferred reserves of low grade to marginal cement grade were calculated at 1.56MT in n/v Lalahera, 0.65 MT in n/v Ramri, 0.10 MT in n/v Saderi, 0.19 MT in n/v Mandap and 0.93 MT in n/v Majra.
DMG Odisha Sundergarh	N/v Badalpani, karamtoli and Tangargaon	1:25,000	150	-	-	-	No drilling has been undertaken. Resource estimation is under progress. Occurrence of dolomite was not encountered.
	North of Surgura and Lephripara	1:25,000	150	-	-	-	Resources were not estimated. Dolomite occurrences were noticed to the North of Village Lephripara and was exposed for 1300 m X 100 m while other occurrences located around Village Surgura,exposed for 30 m X 25 m.

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Table – 3 : Principal Producers of Dolomite, 2011 –12

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.,Sourav Abason, Sector-II, Saltlake, Kolkata-700 091.	Odisha	Sundergarh
Rastriya Ispat Nigam Ltd, Visakhapatnam Steel Plant, Visakhapatnam – 530 031, Andhra Pradesh.	Andhra Pradesh	Khammam
Tata Steel Ltd, Bombay House, 24, Homy Modi Street, Mumbai – 400 001,	Odisha	Sundergarh
*South West Mining Ltd, 3 rd Floor, 'The Estate' # 121, Dickenson Road, Bangalore- 560 042 Karnataka.	Andhra Pradesh	Khammam
Manish Singh Banafer P.O. Janjgir-Champa, Dist.Janjgir-Champa, Chattisgarh.	Chattisgarh	Janjgir- Champa
Mysore Minerals Ltd, 39-M.G. Road, Banglore – 560 001, Karnataka.	Karnataka	Bagalkot
Electrosteel Casting Ltd, G.K.Tower, 19, Camac Street, Kolkatta-700 017 West Bengal.	Maharashtra	Chandrapur
#Aravali Polyart Pvt. Ltd, A-251 (B-1), Road No.1, M.I.A, Distt. Udaipur-313 003, Rajasthan.	Rajasthan	Udaipur
Raikar Mineral Mining & Processing Industries, Raikar House, Bagalkot-587 101 Karnataka.	Karnataka	Bagalkot
Dolomite Mining Corpon., Khamaria Shakti Road, Dist. Janjgir-Champa, Chhattisgarh.	Chhattisgarh	Janjgir- Champa
Hira Power & Steel Ltd., Urla Industrial Complex, Raipur – 492 003, Chhattisgarh.	Chhattisgarh	Raipur

* Associated mine with limestone.

Associated with steatite.

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Table – 5 : Production of Dolomite, 2010-11 & 2011-12(P)
(By Sector/State/District)

(Qty. in tonnes; value in ₹'000)

State/District	2010-11			2011-12 (p)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	136(47)	5839710	1870047	165(50)	5416817	1521320
Public sector	6(1)	2623019	1174753	6(1)	2165130	861697
Private sector	130(46)	3216691	695294	159(49)	3251687	659623
Andhra Pradesh	20(12)	1216373	363958	29(13)	981800	282084
Anantapur	5(5)	47502	6175	9 (5)	42867	5826
Cuddapah	1	480	48	2	1480	168
Khammam	2	517914	251698	1	525415	224029
Kurnool	12(7)	650477	106037	17(8)	412038	52061
Chhattisgarh	33	1592838	363551	38	1628165	394952
Bilaspur	17	1138858	276532	17	1071023	294562
Durg	10	97682	22791	9	65327	14403
Janjgir-Champa	5	318950	57767	8	404101	66644
Raigarh	1	37348	6461	3	87566	19321
Raipur	-	-	-	1	148	22
Gujarat	12(1)	244218	45935	12	169235	23768
Bhavnagar	(1)	2200	660	-	-	-
Vadodara	12	242018	45275	12	169235	23768
Jharkhand	1	429866	386879	1	190769	171692
Garwah	1	429866	386879	1	190769	171692
Karnataka	17(11)	442941	71522	17(16)	548694	90517
Bagalkot	13(8)	388932	64201	14(13)	496039	83133
Belgaum	3(1)	48339	5972	2 (1)	46985	6036
Mysore	1	240	36	1	240	36
Tumkur	(2)	5430	1313	(2)	5430	1312
Madhya Pradesh	43(4)	279859	41788	57(3)	360907	51785
Balaghat	5	13639	1942	5	8701	1134
Chhindwara	1	14000	2100	3	138413	21198
Jabalpur	2(1)	15024	1716	3(1)	16134	1363
Jhabua	12	50708	6387	14	58371	7640
Katni	4(3)	17444	2103	7(2)	19636	2011
Khargaon(W.Nimar)	1	19364	5325	1	7744	1902
Mandla	14	122203	18754	18	107749	15965
Sagar	-	-	-	1	2478	273
Seoni	4	27477	3461	5	1681	299
Maharashtra	6(3)	64865	13867	6(2)	127857	29095
Chandrapur	1	4372	1880	1	89736	21637
Nagpur	4	18022	4657	4	16581	4113
Yavatmal	1(3)	42471	7330	1 (2)	21540	3345
Odisha	3(5)	1358156	551985	4(4)	1174594	437571
Sundergarh	3(5)	1358156	551985	4(4)	1174594	437571
Rajasthan	1(10)	210498	30553	1(11)	234709	39848
Rajsamand	(5)	137940	17517	(5)	129256	21334
Sikar	(1)	88	9	(1)	37	4
Udaipur	1(4)	72470	13027	1(5)	105416	18510
Uttarakhand	(1)	96	9	(1)	87	8
Pithoragarh	(1)	96	9	(1)	87	8

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

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Table – 4 : Production of Dolomite, 2009-10 to 2011-12

(Qty in tonnes; value in ₹ '000)

State	2009-10		2010-11		2011-12 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	5911759	1672224	5839710	1870047	5416817	1521320
Andhra Pradesh	1577072	317824	1216373	363958	981800	282084
Chhattisgarh	1286514	335580	1592838	363551	1628165	394952
Gujarat	346234	50554	244218	45935	169235	23768
Jharkhand	422019	379817	429866	386879	190769	171692
Karnataka	385041	55044	442941	71522	548694	90517
Madhya Pradesh	277017	36190	279859	41788	360907	51785
Maharashtra	76625	15566	64865	13867	127857	29095
Odisha	1316371	450677	1358156	551985	1174594	437571
Rajasthan	224803	30966	210498	30553	234709	39848
Uttarakhand	63	6	96	9	87	8

**Table – 6 : Production of Dolomite, 2010-11 & 2011-12 (P)
(By Frequency Groups)**

(Qty. in tonnes)

Production group	Number of mines		Production for the group		Percentage in total production		Cumulative percentage	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
All Groups	136(47)	165(50)	5839710	5416817	100.00	100.00	-	-
Up to 1000	29(11)	52(20)	14798	25702	0.24	0.49	0.24	0.49
1001-5000	35(18)	42(17)	148332	170596	2.56	3.15	2.80	3.64
5001-10000	12 (6)	17(4)	135902	153758	2.30	2.84	5.10	6.48
10001-50000	48(8)	40(5)	1313591	1155793	22.52	21.33	27.62	27.81
50001-200000	8(2)	11(2)	947423	1366426	16.22	25.22	43.84	53.03
Above-200000	4 (2)	3 (2)	3279664	2544542	56.16	46.97	100.00	100.00

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

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Table – 7 : Mine-head Stocks of Dolomite, 2011-12 (P)

(In tonnes)

State	At the beginning of the year	At the end of the year
India	1732348	2035876
Andhra Pradesh	454729	481773
Chhattisgarh	119619	202913
Gujarat	10391	3906
Jharkhand	30296	3207
Karnataka	209841	210937
Madhya Pradesh	68389	235374
Maharashtra	60967	176246
Odisha	659637	543681
Rajasthan	118479	177839

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 Kannad 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.

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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 suppression 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 specifications of dolomite for use in glass industry are given in Table-8. The general specifications of dolomite consumed in different steel plants are given in Table-9. 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 2011-12 was 6.33 million tonnes. It increased by 1% from that in the year 2010-11, mainly in sponge iron industry. Iron & steel industry was the major consumer of dolomite in 2011-12 accounting 72%, followed by sponge iron (17%) and cement & ferro-alloys (2% each). The remaining quantity was utilised by other industries, such as alloy steel, glass, fertilizer, paint, refractory, etc. (Table - 10).

Table – 8 : Specifications of Limestone and Dolomite for Glass Industry (IS : 997-1973; First Revision; Reaffirmed 2008)

Constituent	Requirement on dry basis (percent)
Lime (as CaO)	53.00 (min)*
Total lime and magnesia (as CaO + MgO)	54.50 (min)
Silica (as SiO_2)	2.50 (max)
Total iron (as Fe_2O_3)	
(a) Calcite or marble	0.05 (max)
(b) Limestone	0.10 (max)
(c) Dolomitic limestone and dolomite	0.15 (max)

**In case of dolomitic limestone and dolomite, requirement of lime as CaO may be fixed by mutual agreement between the purchaser and supplier.*

Table - 10: Reported Consumption of Dolomite, 2009-10 to 2011-12 (By Industries)

Industry	(In tonnes)		
	2009-10	2010-11(R)	2011-12(P)
All Industries	5802400	6239000	6328500
Alloy steel	42400(5)	53800(6)	53800(6)
Cement	107200(4)	110500(5)	127900(5)
Ceramic	17800(6)	20200(6)	20200(6)
Cosmetic	700(1)	400(1)	400(1)
Ferro-alloys	102500(25)	137200(29)	127500(29)
Fertilizer	12100(4)	11900(4)	10500(4)
Foundry	1900(5)	1900(5)	1900(5)
Glass	83100(29)	84800(31)	96900(32)
Iron & steel ^{1/}	4363700(30)	4493800(34)	4556300(35)
Paint	27800(11)	29500(12)	29800(12)
Refractory	63400(3)	254200(4)	254200(4)
Sponge iron	979200(35)	1040200(53)	1048500(54)
Others (Chemical, electrical, electrode and rubber)	600(6)	600(6)	600(6)

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.

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Table – 9 : 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	1.65-22.0	–	–
	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 ₂ O ₃	–	1.5 (max)	0.75 (max)
	Fe ₂ O ₃	–	1.0 (max)	1.0 (max)
	Al	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 ₂ O ₃	–	0.8 (max)	–
	Fe ₂ O ₃	–	1.0 (max)	–
	Al	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)
	Al	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)	–	–
	Al	8.00 (max)	–	–
	Size	25-75 mm	–	–
Kirloskar Ferrous Industries Ltd	MgO	19 (min)	–	–
	CaO	28 (min)	–	–
	SiO ₂	3 (max)	–	–
	Al ₂ O 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; Al: Acid Insolubles

FOREIGN TRADE

Exports

Exports of dolomite increased considerably to 40,254 tonnes in 2011-12 from 26,801 tonnes in 2010-11. Exports were mainly to Nepal (58%), Bangladesh (27%) and Malaysia (7%) in 2011-12 (Table - 11).

**Table – 11 : Exports of Dolomite
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	26801	65184	40254	111825
Bangladesh	6445	19824	11009	38760
Nepal	13517	24831	23571	38038
Malaysia	1424	7896	2719	16491
UAE	732	3680	482	3409
USA	-	-	205	2069
Oman	227	1287	220	2010
Zambia	-	-	42	1660
Tanzania Rep.	40	331	229	1644
Saudi Arabia	231	903	278	1217
Yemen Republic	216	718	478	1187
Other countries	3969	5714	1021	5340

**Table – 12 : Imports of Dolomite
(By Countries)**

Country	2010-11		2011-12	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	611833	1395183	1594573	2010748
UAE	374538	363966	915998	1014164
Thailand	222205	743080	485740	588306
Italy	10154	219654	7576	185123
Philippines	4300	54275	131840	159111
Chinese Taipei/ Taiwan	-	-	39440	44074
China	168	6310	13149	8453
USA	-	-	244	5628
UK	97	1395	255	3856
Spain	290	4554	216	968
Iran	-	-	110	791
Other countries	81	1949	5	274

Imports

Imports of dolomite increased drastically to 1,594,573 tonnes in 2011-12 from 611,833 tonnes in 2010-11. Imports were mainly from UAE (57%) and Thailand (30%) (Table - 12).

FUTURE OUTLOOK

Over 95% of the total production of dolomite finds outlet mainly in iron and 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 purposes 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 6.15 million tonnes by 2011-12 and at 9.46 million tonnes by 2016-17 at 9% growth rate.