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DOLOMITE

(FINAL 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. Dolomite occurrences are widespread in almost all parts of the country.

RESOURCES

Dolomite occurrences are widespread in the country. As per UNFC system, as on 1.4.2013 total reserves/resources of dolomite are placed at 8,085 million tonnes, out of which 784 million tonnes are placed under reserves category and the balance 7,301 million tonnes under remaining resources category. Gradewise, BF/sintering grade accounts for 24% resources followed by SMS (15%), refractory (9%), BF & SMS(OH) mixed (5%), and glass (3%). Others, unclassified, not-known and BF, SMS & refractory mixed grades together account for the remaining 44% resources. Major share of about 89% resources were distributed in eight states, namely, Madhya Pradesh (28%), Andhra Pradesh (13%), Chhattisgarh (11%), Odisha (10%), Karnataka (8%), Gujarat & Rajasthan (7% each), and Maharashtra (5%). The remaining 11% resources are distributed in Arunachal Pradesh, Jharkhand, Haryana, Sikkim, Tamil Nadu, Telangana, Uttarakhand, Uttar Pradesh and West-Bengal. Gradewise and Statewise reserves/ resources of dolomite are given in Table-1.

EXPLORATION & DEVELOPMENT

In 2014-15, exploration activities were undertaken by the State Directorate of Geology & Mining, Chhattisgarh in Bastar, Janjgir & Champa and by DMG, Rajasthan in Tonk district. Details of exploration activities for dolomite are furnished in Table- 2.

PRODUCTION AND STOCKS

The production of dolomite in 2014-15 (up to January, 2015) at 6,209 thousand tonnes, registered a decrease of 15% as compared to the previous year.

There were 172 reporting mines in 2014-15 as against 185 in the previous year. Besides, production of dolomite was reported by 50 associated mines in 2014-15 as against 60 in previous year. About 51% of total production was contributed by 15 principal producers. About 20% production of dolomite was reported as an associated mineral with asbestos, barytes, clay (others), iron ore, limestone, magnesite, shale and steatite. Two mines producing more than 2 lakh tonnes annually accounted for about 24% of the total production in 2014-15.

The share of public sector in 2014-15 at 23% registered a decrease of 5% as compared to that in the previous year. Chhattisgarh, the leading producing state of dolomite accounted for 39% of total production in 2014-15, followed byAndhraPradesh (11%),Karnataka (10%) Madhya Pradesh (9%), Telangana (8%), Odisha (7%), Gujarat and Rajasthan (6% each). The remaining 4% was jointly shared by Jharkhand, Maharashtra and Uttarakhand (Tables- 3 to 6).

Mine-head closing stock of dolomite for the year 2014-15 (up to January 2015) was 2,652 thousand tonnes as against 2,648 thousand tonnes in the previous year (Table-7).

The average daily employment of labour in 2014-15 was 3,338 as against 3,783 in the previous year. The prices of dolomite are furnished in General Review on 'Prices'.

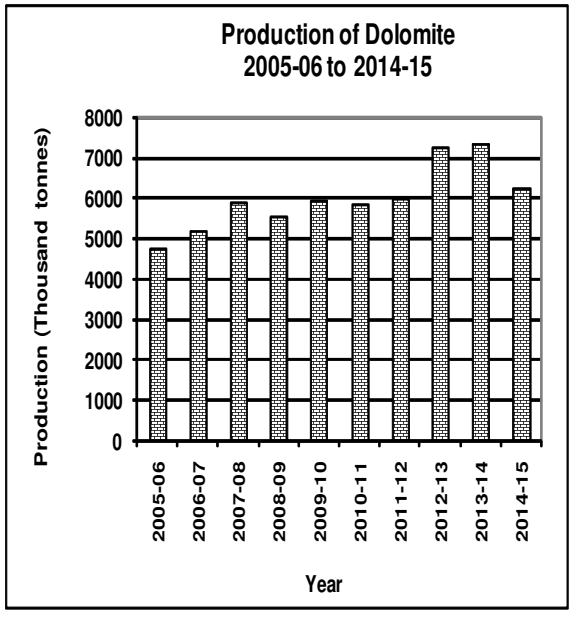

Table – 1 : Reserves/Resources of Dolomite as on 1.4.2013
(By Grades/States)

(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	**494815**	**146050**	**143039**	**783906**	**171293**	**268984**	**464085**	**269812**	**746919**	**5167039**	**212535**	**7300667**	**8084572**
By Grades													
B.F./Sintering	172863	47551	39938	260353	24348	48628	112112	165366	408524	858783	33482	1651242	1911595
S.M.S.(O.H.)	37417	15050	19211	71678	21260	10961	20704	20034	122738	858341	68460	1122496	1194174
S.M.S.(L.D.)	47590	8056	15895	71541	14472	6477	160260	4221	2667	131835	80	320013	391553
S.M.S.(O.H.& L.D mixed)	60872	4208	4037	69117	7142	39585	8370	30718	4000	184201	969	274985	344102
B.F. & S.M.S. mixed	46263	867	8443	55572	32686	13611	2490	18548	34593	227477	-	329404	384976
Refractory	12706	8773	8816	30295	30636	71082	52409	-	271	522594	2994	679985	710280
B.F., S.M.S.& Refractory	-	-	-	-	-	1797	1258	-	-	5387	-	8441	8441
Glass	4967	26002	2318	33288	3208	22424	41123	2093	1297	127637	-	197782	231069
Others	67314	17758	19889	104961	15600	30834	17112	20651	46494	91002	3097	224790	329751
Unclassified	42188	17786	22969	82943	18324	21806	24756	8099	58120	584196	7674	722976	805919
Not-known	2633	-	1524	4158	3617	1780	23491	82	68215	1575588	95780	1768554	1772711
By States													
Andhra Pradesh	65062	2845	19360	87266	39106	7652	27935	554	77	881409	2238	958972	1046238
Arunachal Pradesh	-	-	-	-	-	-	-	-	204	77633	-	77837	77837
Chhattisgarh	42255	47293	12341	101889	26119	77833	21170	150795	24412	514437	1950	816716	918604
Gujarat	40376	16071	23793	80240	6627	27532	66174	20263	63780	280754	-	465131	545371
Haryana	-	-	-	-	1692	6037	3722	-	-	16183	-	27633	27633
Jharkhand	14440	-	6720	21160	690	350	860	-	-	1857	-	3756	24916
Karnataka	27783	5910	5861	39555	15634	9780	14509	8519	76244	454274	13482	592442	631997
Madhya Pradesh	27459	16124	24326	67909	21809	88044	72858	18314	288407	1581117	114799	2185347	2253256
Maharashtra	16544	16242	11385	44171	7275	3092	4190	7000	18050	334246	2994	376847	421018
Odisha	136148	34873	19694	190715	30010	24529	80869	40779	43412	323157	76289	619044	809759
Rajasthan	70000	5344	18730	94074	8416	10242	121662	16132	25480	322617	784	505333	599407
Sikkim	-	-	-	-	-	-	-	-	-	2756	-	2756	2756
Tamil Nadu	-	-	-	-	-	-	-	2010	135	-	-	2145	2145
Telangana	53938	1044	829	55811	1352	550	1765	-	132511	6380	-	142557	198369
Uttar Pradesh	-	-	-	-	-	12622	-	3500	-	66230	-	82352	82352
Uttarakhand	810	305	-	1115	36	721	371	1946	981	199716	-	203771	204885
West Bengal	-	-	-	-	12528	-	48000	-	73226	104275	-	238029	238029

Figures rounded off.

Table – 2 : Details of Exploration Activities for Dolomite, 2014-15

Agency State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
DGM Chhattisgarh							
Bastar							
	Kurundi	1:50000	305	-	504	264	Objective of exploration was to search new locations of limestone. Area is occupied by dolomite of Jagdalpur formation of Indravati sub basin of Chhattisgarh supergroup. Dolomite is pinkish grey & horizontally bedded. Deposits of dolomite were demarcated around Bamhani village. About 2.0 lakh tonnes of beneficiable dolomitic resources under 333 and 8.0 lakh tonnes under 334 category of UNFC respectively were estimated . The prospecting work has been completed.
	Jiragaon Markel	1:4000	1.01	-	-	-	
Janjgir							
Champa	N/v Pacheri	1:50000	20	-	31	39	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 inter-calation. Dolomite is grey & sub horizontally bedded. Deposits of dolomite were demarcated around village Pacheri-Bhalwahi. About 50 lakh tonnes of BF grade dolomitic resources were estimated under 332 category of UNFC. The prospecting work has been completed.
	Bhalwahi	1:4000	0.40	-	-	-	
DMG Rajasthan							
Tonk	Shyamgarh	1:10000	10	-	-	105	Objective of exploration was to search new location of cement grade limestone. Geologically, the area comprises calc gneiss, calc silicate, limestone, quartzite, mica schist of Kumbhalgarh Group of Delhi Supergroup along with intrusive of granite, pegmatite, and vein quartz. General strike of rock formation is NNE-SSW with 70-80 degree westerly dip. Three parallel limestone bands were mapped. The area exposed limestone alternatively intercalcated with calc silicate. During the prospecting work occurrence of dolomitic liestone reported.
	Pakriywas	1:2000	4	-	-	-	
-do-	Khalipura	1:50000	150	-	-	-	Objective of exploration was to search new location of cement grade limestone. Geologically the rock of the area belongs to Rajmahal Formation of Bhilwara Supergroup along with post Bhilwara intrusive. Six limestone bands along with calc silicate in about 150 mt to 1500 mt strike length with 50 to 250 mt were mapped. During the prospecting work occurrence of dolomitic limestone reported.
	Dowari	1:10000	10	-	-	-	
	Davri	1:2000	3				

Table – 3 : Principal Producers of Dolomite, 2014 –15

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
Rashtriya Ispat Nigam Ltd, Room No. 384, Main Admn.Building, C Block, II floor, North Wing, Visakhapatnam- 530 031, Andhra Pradesh.	Telangana	Khammam
*South West Mining Ltd, Talur Cross, Vidya Nagar (Post), Torangallu, Sandur- 583 275, Karnataka.	Andhra Pradesh	Kurnool
A.N.Patnaik, Block H/2, Civil Township, Rourkela, Sundergarh-769 004, Odisha.	Odisha	Sundergarh
Manish Singh Banafer, D/22, Vidya Nagar, Near Shiv Mandir, Bilaspur- 495 001, Chhattisgarh.	Chhattisgarh	Janjgir- Champa
Ultratech Cement Ltd, B Wing 2nd Floor, AHura Center, Mahakali Caves Road, Andheri (E) Mumbai- 400 093.	Madhya Pradesh	Katni
Sri Balaji Metals & Minerals Pvt. Ltd, 23 A, Netaji Subhash Road, 3rd Floor, Suit No. 6, Kolkata - 700 001, West Bengal.	Chhattisgarh	Janjgir- Champa

Contd....

(Table -3 Concld..)

Name & address of producer	Location of mine	
	State	District
Dolomite Mining Corpn, Shakti Road, Baradwar, Sakti- 495 687, Chhattisgarh.	Chhattisgarh	Janjgir- Champa
#S. Sohan Singh Joginder Singh & Co., A 431, Main Road, Bhupalpura, Udaipur- 313 001, Rajasthan.	Rajasthan	Udaipur
Ashish Goyal, O.P. Jindal Marg, Jagatpur, Raigarh- 496 001, Chhattisgarh.	Chhattisgarh	Raigarh
Mrityunjay Singh Sisodiya, Podhishankar, Janjgir, Janjgir-Champa- 495 660, Chhattisgarh.	Chhattisgarh	Janjgir- Champa
N. S. Saigal Associated Mining Co, H-2/133, Nanak House, Narmada Nagar, Bilaspur– 495 001, Chhattisgarh.	Chhattisgarh	Bilaspur
*The Bisra Stone Lime Co. Ltd, A.G.,104, Sourav Abason, Sector-II, Salt Lake City, Kolkata- 700 091.	Odisha	Sundergarh
#Aravali Polyart Pvt. Ltd., A-251(B-1) Road No.1, M.I.A Madri, Udaipur - 313 003	Rajasthan	Udaipur
Hussain Bhai Ismailbhai Madri, Mahudi Falia, Station Road, Chhota Udaipur, Vadodara- 391 165, Gujarat.	Gujarat	Vadodara

**Associated mine with limestone*

#Associated mine with steatite.

Table – 4 : Production of Dolomite, 2013-14 & 2014-15 (By Sectors/States/Districts)

(Qty in tonnes; Value in ₹'000)

State/District	2013-14			2014-15** (P)		
	No. of mines	Quantity	Value	No. of mines	Quantity	Value
India	**185(60)**	**7310599**	**2683923**	**172(50)**	**6209476**	**2251761**
Public sector	6(1)	2062455	1212114	6(1)	1457073	829953
Private sector	179(59)	5248144	1471809	166(49)	4752403	1421808
Andhra Pradesh#	**42(24)**	**747409**	**152244**	**33(17)**	**698273**	**162891**
Anantapur	16 (6)	93293	16198	9 (4)	78061	34734
Cuddapah	5(4)	48582	13838	3(1)	32864	9432
Kurnool	21(14)	605534	122208	21(12)	587348	118725
Chhattisgarh	**42**	**2637734**	**903121**	**43**	**2437702**	**825904**
Bilaspur	20	1405133	531272	20	1315214	502604
Durg	6	24862	8157	5	12970	3781
Janjgir-Champa	8	819224	242106	9	674565	199639
Raigarh	7	378316	119057	8	426928	117970
Raipur	1	10199	2529	1	8025	1910
Gujarat	**13(1)**	**526355**	**110781**	**18(1)**	**388173**	**87242**
Bhavnagar	(1)	4750	1425	(1)	18772	5632
Vadodara	13	521605	109356	18	369401	81610
Jharkhand	**1**	**267146**	**384957**	**1**	**135319**	**194994**
Garhwah	1	267146	384957	1	135319	194994
Karnataka	**16(14)**	**642906**	**205147**	**13(14)**	**619367**	**208550**
Bagalkot	13(12)	596449	190275	12(12)	573467	193309
Belagavi	2(1)	38900	13165	1 (1)	40700	13985
Mysuru	1	807	222	-	-	-
Tumakuru	(1)	6750	1485	(1)	5200	1256
Madhya Pradesh	**57(5)**	**595594**	**133021**	**49(5)**	**542637**	**127068**
Balaghat	2	8629	1097	2	4850	647
Chhindwara	6	144719	31325	6	56720	18503
Jabalpur	5	35061	7801	3	18973	4873
Jhabua	6	43607	8760	5	28542	6283
Katni	8(4)	137390	37480	9(4)	216820	54580
Khargaon (W.Nimar)	1	18608	5117	1	15319	4213
Mandla	27	206029	41065	22	197211	36538
Narsimhapur	(1)	855	271	(1)	1275	260
Sagar	1	571	86	1	2927	1171
Seoni	1	125	19	-	-	-
Maharashtra	**5(2)**	**233384**	**68361**	**6(2)**	**102236**	**28431**
Chandrapur	1	81500	23880	1*	-	-
Nagpur	2	1093	311	3	7943	3608
Yavatmal	2(2)	150791	44170	2 (2)	94293	24823
Odisha	**4(3)**	**687823**	**348854**	**3(2)**	**413891**	**253198**
Sundergarh	4(3)	687823	348854	3(2)	413891	253198
Rajasthan	**1(10)**	**399084**	**97290**	**2(8)**	**381314**	**99576**
Jaisalmer	-	-	-	1	50	10
Rajsamand	(6)	184204	25918	(5)	144054	24382
Udaipur	1(4)	214880	71372	1(3)	237210	75184
Telangana#	**4**	**573152**	**280146**	**4**	**485222**	**260007**
Khammam	3	570252	279566	3	484322	259827
Warangal	1	2900	580	1	900	180
Uttarakhand	**(1)**	**12**	**1**	**(1)**	**5342**	**3900**
Pithoragarh	(1)	12	1	1	5342	3900

Figures in parentheses indicate number of associated mines with asbestos, baryte, clay (others), iron ore, limestone, magnesite, shale and steatite.(P) Provisional;

*** Data up to January 2015.*

#Figures mentioned against 2013-14 are of districts which are part of present Andhra Pradesh and Telangana States.

**Labour and dispatches reported.*

Table – 5 : Production of Dolomite, 2012-13 to 2014-15

(Qty in tonnes; Value in `'000)

State	2012-13		2013-14		2014-15* (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	**7233958**	**2618906**	**7310599**	**2683923**	**6209476**	**2251761**
Andhra Pradesh#	856330	185332	747409	152244	698273	162891
Chhattisgarh	1970136	573523	2637734	903121	2437702	825904
Gujarat	499122	103159	526355	110781	388173	87242
Jharkhand	301185	434008	267146	384957	135319	194994
Karnataka	728186	179331	642906	205147	619367	208550
Madhya Pradesh	655858	119765	595594	133021	542637	127068
Maharashtra	314562	99538	233384	68361	102236	28431
Odisha	992470	521436	687823	348854	413891	253198
Rajasthan	224826	45243	399084	97290	381314	99576
Telangana#	691283	357571	573152	280146	485222	260007
Uttarakhand	-	-	12	1	5342	3900

**Data up to January 2015.*
#Figures mentioned against 2012 & 2013-14 are of districts which are part of present Andhra Pradesh and Telangana states.

Table – 6 : Production of Dolomite, 2013-14 & 2014-15
(By Frequency Groups)

(Qty. in tonnes)

Production group	Number of mines		Production for the group		Percentage in total production		Cumulative percentage	
	2013-14	2014-15*(P)	2013-14	2014-15*(P)	2013-14	2014-15*(P)	2013-14	2014-15*(P)
All Groups	**185(60)**	**172(50)**	**7310599**	**6209476**	**100.00**	**100.00**	**–**	**–**
Up to 1000	40(17)	26(13)	19947	16551	0.27	0.27	0.27	0.27
1001-5000	31(12)	42 (11)	115873	151255	1.59	2.44	1.86	2.71
5001-10000	23 (8)	26 (8)	235088	249583	3.22	4.02	5.08	6.73
10001-50000	65(13)	53(9)	1819738	1528355	24.89	24.61	29.97	31.34
50001-200000	22 (8)	23 (8)	2642314	2781855	36.14	44.80	66.11	76.14
Above-200000	4 (2)	2 (1)	2477639	1481877	33.89	23.86	100.00	100.00

** Data up to January 2015.*
Figures in parentheses indicate number of associated mines with asbestos, barytes, clay (others), iron ore, limestone, shale and steatite.

Table – 7: Mine-head Closing Stocks of Dolomite, 2013-14 & 2014-15

(In tonnes)

State	2013-14	2014-15*(P)
India	**2648186**	**2651541**
Andhra Pradesh#	180798	185646
Chhattisgarh	367896	431352
Gujarat	9537	9213
Jharkhand	12544	-
Karnataka	254631	266175
Madhya Pradesh	274817	279858
Maharashtra	371268	379077
Odisha	598402	591174
Rajasthan	423145	332332
Telangana#	155148	176714

** Data up to January 2015.*
 # Figures mentioned against 2013-14 are of districts which are part of present Andhra Pradesh and Telangana states.

MINING AND MARKETING

Dolomite mines are generally worked by opencast method of mining. Manual working is in vogue in most of the mines. However, 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 Tumakuru district of Karnataka is supplied to the ferro-manganese plants at Dandeli in 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 neutralise acidity. Regular application of dolomite improves crop yields owing to its neutralisation potential. 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 specifications 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 2014-15 was 7.23 million tonnes. It slightly increased in the year 2014-15, mainly in Sponge Iron Industry. Iron & Steel Industry was the major consumer of dolomite in 2014-15 accounting 80%, 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)	20 (min)	20 (min)
	CaO	29 (min)	30 (min)	30 (min)
	SiO_2	-	-	1.7 (max)
	Al_2O_3	-	-	2.5(max)
	Acid insoluble	6 (max)	5 (max)	-
	Size	0-60 mm	60-100 mm	50-80 mm
Bokaro Steel Plant	MgO	20 (min)	-	20 (min)
	CaO	30 (min)	-	30 (min)
	SiO_2	5 (max)	-	1.5 (max)
	Al_2O_3	-	-	1.0 (max)
	Fe_2O_3	-	-	-
	Acid insoluble	-	-	-
	Size	25-80 mm	-	5-25 mm
Rourkela Steel Plant	MgO	19 (min)	20 (min)	21 (min)
	CaO	-	-	-
	$Si O_2$	-	2.5 (max)	1.5 (max)
	Al_2O_3	-	1.5 (max)	0.75 (max)
	Fe_2O_3	-	1.0 (max)	1.0 (max)
	Acid insoluble	8 (max)	-	-
	Size	0 to 6 mm	40 to 80 mm	–
Durgapur Steel Plant	MgO	18 (min)	20 (min)	–
	CaO	-	30.85	–
	$Si O_2$	16 (max)	2.5 (max)	–
	Al_2O_3	-	0.8 (max)	–
	Fe_2O_3	-	1.0 (max)	–
	Acid insoluble	10 (max)	44	–
	Size	3	16 mm	–
IISCO Steel Plant	MgO	19.5 (min)	19.5 (min)	–
	CaO	-	-	
	SiO_2	-	-	–
	Al_2O_3	-	-	
	Fe_2O_3	-	-	
	Acid insoluble	8.7 (max)	8.7 (max)	
	Size	25to75 mm	50mm to 125mm	–
Tata Steel Ltd	MgO	20 (min)	20 (min)	20 (min)
	CaO	-	-	-
	SiO_2	-	-	-
	Al_2O_3		3.5 (max)	1.7 (max)
	Fe_2O_3		-	-
	Acid insoluble	6 (max)	6 (max)	11.5 (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(max)	–
	Al_2O_3			
	Fe_2O_3			
	Acid insoluble			
	Size	–	10-50 mm	–
Visakhapatnam Steel Plant	MgO	19.80 (min)	21.20 (min)	21.20 (min)
	CaO	29.04 (min)	30.50 (min)	30.50 (min)
	SiO_2	3.80 (max)	0.90 (max)	0.90 (max)
	Al_2O_3	1.10 (max)	0.30 (max)	0.30 (max)
	Fe_2O_3	1.20 (max)	1.10 (max)	1.10 (max)
	Acid insoluble	-	46.00	10.00
	Size	6to80 mm	25-50 mm	5-25 mm
IDCOL, Kalinga Iron Works	MgO	-	-	-
	CaO	-	-	-
	SiO_2	-	-	-
	Al_2O_3	-	-	-
	Fe_2O_3	-	-	-
	Total insoluble	8.00 (max)	-	-
	Size	25 to 75	-	-

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

Table - 9 : Consumption * of Dolomite 2012-13 to 2014-15 (By Industries)

(In tonnes)

Industry	2012-13	2013-14(R)	2014-15 (P)
All Industries	**6737500**	**6938100**	**7229600**
Alloy steel	5300(4)	5300(4)	5300(5)
Cement	124200(5)	131500(6)	128000(6)
Ceramic	20200(6)	20200(6)	20200(6)
Ferro-alloys	136700(31)	137500(32)	130800(32)
Fertilizer	8900(4)	8900(4)	8900(4)
Glass	89200(32)	101800(31)	102700(31)
Iron & steel [1/]	5355200(43)	5544300(43)	5806600(43)
Paint	29300(12)	29300(12)	29300(12)
Refractory	375400(4)	321300(4)	349500(4)
Sponge iron	587300(72)	627400(76)	629500(78)
Others (Chemical, electrical, electrode and rubber)	5800(14)	10600(14)	18800(14)

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

**Paucity of data, hence consumption may not be complete.*

[1/] The figures for iron & steel and pelletisation (iron & steel) added.

Table – 10 : Exports of Dolomite (By Countries)

Country	2013-14		2014-15 (P)	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	**32511**	**125328**	**44620**	**156629**
Nepal	18027	53108	28550	67980
Bangladesh	11477	51720	12455	57805
UAE	621	2756	1604	5748
Malaysia	555	4410	616	5067
Jordan	-	-	95	4452
Syria	-	-	95	4163
Nigeria	244	2183	272	2690
Kenya	24	116	44	1767
Singapore	176	1175	219	1518
Ethopia	90	694	178	1440
Other countries	1297	9166	492	3999

Table – 11 : Imports of Dolomite (By Countries)

Country	2013-14		2014-15 (P)	
	Qty (t)	Value (₹000)	Qty (t)	Value (₹000)
All Countries	**2511602**	**3736522**	**2014760**	**3146097**
UAE	1375609	1819321	1016350	1450082
Thailand	891867	1228244	688220	965404
Vietnam	23932	151687	47525	330262
Philippines	209800	286320	173227	239612
USA	-	-	41580	50780
Saudi Arabia	-	-	42480	46794
Italy	7870	237458	2544	46516
Hong Kong	-	-	1027	6892
Bhutan	1839	1007	1278	3842
Spain	505	8905	356	3067
Other countries	180	3580	173	2846

FOREIGN TRADE

Exports

Exports of dolomite increased considerably to 44,620 tonnes in 2014-15 from 32,511 tonnes in 2013-14. Exports were mainly to Nepal (64%), Bangladesh (28%), UAE (4%) and Malaysia (1%) in 2014-15 (Table - 10).

Imports

Imports of dolomite decreased considerably to 20,14,760 tonnes in 2014-15 from 25,11,602 tonnes in 2013-14. Imports were mainly from UAE (50%), Thailand (34%) and Philippines (9%) (Table- 11).

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.