

## 10.9 DOLOMITE

### Introduction

Dolomite is a double carbonate of calcium and magnesium ( $\text{CaCO}_3$ ,  $\text{MgCO}_3$ ), theoretically contains  $\text{CaCO}_3$  54.35% and  $\text{MgCO}_3$  45.65% or  $\text{CaO}$  30.4%,  $\text{MgO}$  21.9% and  $\text{CO}_2$  47.7%. However, in nature, dolomite is not available in this exact proportion. Hence, in commercial parlance, the rock containing 40-45%  $\text{MgCO}_3$  is usually called dolomite. Dolomite is high magnesium limestone which after calcination is used for refractory purpose as a substitute of magnesite refractory in linings of furnaces like basic open hearth, steel furnaces and bessemer converters. It is also used in chemical industry in the manufacture of paper, leather, glass, potteries and high magnesium lime. Dolomite is also used as a flux in iron, steel, ferro-alloys and glass industries. In agriculture, dolomite is used as a soil conditioner and as a filler in fertilizers, paints and varnishes.

Dolomite has been declared as a "Minor Mineral" under section 3 (c) of the MMDR Act, 1957 vide Gazette Notification 423 (E) dated 10.02.2015.

### Basis of Grade Classification

In the inventory as on 1.4.2015 resources of dolomite have been classified into the following grades :

1. SMS (L.D) Grade	MgO 20-21% $\text{SiO}_2$ 0.4 - 1.8% $\text{Al}_2\text{O}_3$ 0.2 - 0.6% $\text{Fe}_2\text{O}_3$ 0.2 - 0.4%
2. SMS (O.H) Grade	MgO 15 - 21% $\text{SiO}_2$ 0.9 - 2.5% Insoluble Total 0.74 - 2.8%
3. B.F & Sintering Grade	MgO 19% (min) Acid Insoluble 12% (max)
4. Refractory Grade	$\text{CaO} + \text{MgO}$ 27 - 33.6% MgO 18.7 - 21.3% (max) Acid Insoluble 0.1 - 5.2% $\text{SiO}_2$ 0.6% (max)
5. Glass Grade	$\text{CaO} + \text{MgO}$ 50% (min) $\text{Fe}_2\text{O}_3$ 0.15% (max) $\text{SiO}_2$ 2.5% (max)
6. Beneficial	MgO 15% $\text{SiO}_2$ 6% (Max) Insoluble Total 12% (Max)
7. Others	Estimation of marketable/

useable grades which could not be classified into above grades.

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|-----------------|---|
| 8. Unclassified | Minimum and maximum ranges of chemical constituents are too wide to be fitted into any of the above grades. |
| 9. Not known    | The information on chemical constituents is not available or potential/actual use is not reported.          |

### Basis of Categorisation of Resources

As per United Nations Framework Classification (UNFC), resources are broadly classified into 'reserves' and 'remaining resources'.

According to the norms of this system, 'reserves' of dolomite have been placed under proved (111) and probable (121) & (122) categories.

The 'remaining resources' have been placed under feasibility (211), pre-feasibility (221) & (222), measured (331), indicated (332), inferred (333) and reconnaissance (334) categories.

### Salient Features of the Inventory

The total resources of dolomite in the country as on 1.4.2015 are estimated at 8,414,891 thousand tonnes, of these 677,884 thousand tonnes (8%) fall under 'reserve' category and 7,737,007 thousand tonnes (92%) are under 'remaining resource' category.

All India scenario of dolomite reserves, remaining resources and total resources as on 1.4.2015 vis-a-vis 1.4.2010 have been appended in Tables - 1 and 2. The tables give an idea about the significant changes in terms of increase or decrease of resources as per lease status, grades and states. In Table-3 district wise reserves/resources as on 1.4.2015 have been given.

Out of the total resources, the share of freehold areas is 6,290,635 thousand tonnes (75%), leasehold public sector 461,845 thousand tonnes (5%) and leasehold private sector 1,662,411 thousand tonnes (20%).

Out of the total resources of dolomite, the share of BF/sintering grade is 1,973,535 thousand tonnes (23.5%), SMS (OH) grade 1,351,411 thousand tonnes