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MINOR MINERALS

30.15 MARBLE

(ADVANCE RELEASE)

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30-15 Marble

Marble is a 'Minor Mineral' as defined under Clause (e) of Section 3 of Mines and Minerals (Development & Regulation) Act, 1957. The term "marble" is derived from the Latin word Murmur which in turn is said to have been coined from Greek word Marmorous, meaning shining stone. It is known for its pleasant colours, smooth and uniform texture, moderate hardness, amenability to be quarried into big blocks, smooth & shiny polished surface and silky feel. Marble occupies a unique position among other dimension stones because of its aesthetic value.

In terms of geological definition, it is a metamorphosed limestone produced by re-crystallisation under conditions of thermal and regional metamorphism. In commercial parlance, all calcareous rocks capable of taking polish are classed as marbles. Furthermore, serpentine rocks containing little calcium or magnesium carbonates, if attractive and capable of taking good polish are also classed as marbles. The calcareous stones like onyx, travertine and some limestone have also been classed as marbles. Marble's internal demand has always remained high and most of the production added with recent increase in imports is consumed within the country.

Marble is the most preferred stone in India among all dimension stones. Most of the units in the Marble Industry are in the small scale sector.

RESERVES/RESOURCES

On the basis of available data, IBM has prepared a mineral inventory of marble reserves/ resources as per NMI database, based on UNFC system as on 1.4.2015 which is furnished in Table - 1. The total resources of all grades of marble have been estimated at 1,945 million tonnes. Of these, only about 4.5 million tonnes (0.23%) fall under 'Reserves' category and about 1,941.3 million tonnes (99.77%) under 'Remaining Resources' category. Gradewise, about 27% resources fall under Unclassified and Not-known grades, 55% under Off-colour grade and 17% under White Colour grade. The available data on marble resources reveal that about 63% resources are in Rajasthan, 21% in Jammu & Kashmir, 6% in Gujarat and 4% in Chhattisgarh. The remaining resources are distributed mainly in Maharashtra, Haryana, Uttarakhand and Sikkim in descending order.

PRODUCTION

Marble being building stone, comes under 'Minor Mineral', as defined in Clause (e) of Section 3 of MM(DR) Act, 1957; hence the producers report the production data directly to the respective States and not to IBM. However, efforts were made to collect this information through correspondence with the State Directorates of Mining and Geology of individual States or visiting their websites. But data of only a few States could be collected. All possible information/data that could be gathered has been presented in this Review.

Statewise production of marble is furnished in Table-2.

Table-2 : Statewise Production of Marble

(In tonnes)

State	Year		
	2016-17	2017-18	2018-19
Rajasthan	13523759	13199265	-
Gujarat	983401	829711	1086979
Andhra Pradesh	357	-	-

Source: *As received from State DGMs and their websites*
Note : " - " NA

CLASSIFICATION

A variety of marbles are produced and marketed under various trade names on the basis of colour, shade and pattern. These are i) Plain White Marble ii) Panther Marble iii) White-Veined Marble iv) Plain Black Marble v) Black Zebra Marble vi) Green Marble vii) Pink Adanga Marble viii) Pink Marble ix) Grey Marble and x) Brown Marble.

In addition, many new varieties of marble have been brought into the folds of classification especially after opening of new mining areas. The important new types classified by BIS are given below:

1. Yellow marble from Jaisalmer.
2. Pista marble (amphibolite variety) from Andhi-Jhiri belt, Jaipur, Alwar and Dausa districts, Rajasthan.
3. Brown green and golden ultramafics from Dunkar, Churu district, Rajasthan.
4. Chocolate-brown and English teak wood marble from Jodhpur district, Rajasthan.

Table – 1 : Reserves/Resources of Marble as on 1.04.2015
(By Grades/States)

(In ' 000 tonnes)

State/Grade	Reserves				Remaining Resources								Total Resources (A+B)
	Proved	Probable		Total	Feasibility	Pre-feasibility		Measured	Indicated	Inferred	Reconnaissance	Total	
	STD111	STD121	STD122	A	STD211	STD221	STD222	STD331	STD332	STD333	STD334	B	
All India : Total	**-**	**-**	**4551**	**4551**	**104236**	**202003**	**72386**	**-**	**107129**	**1453386**	**2200**	**1941341**	**1945892**
By Grades													
White Colour	-	-	-	-	72700	124504	81	-	-	133442	-	330727	330727
Off-Colour	-	-	-	-	31536	75364	48352	-	107129	809104	-	1071485	1071485
Unclassified	-	-	4551	4551	-	-	21870	-	-	505952	2200	530022	534573
Not-known	-	-	-	-	-	2136	2083	-	-	4888	-	9107	9107
By States													
Telangana	-	-	-	-	-	-	-	-	-	3	-	3	3
Chhattisgarh	-	-	-	-	-	-	-	-	-	83000	-	83000	83000
Gujarat	-	-	-	-	-	26571	45000	-	17129	34871	-	123571	123571
Haryana	-	-	-	-	-	1234	1602	-	-	19492	-	22328	22328
Jammu & Kashmir	-	-	-	-	-	-	-	-	-	412381	2200	414581	414581
Madhya Pradesh	-	-	4551	4551	-	-	-	-	-	-	-	-	4551
Maharashtra	-	-	-	-	-	324	81	-	-	57642	-	58047	58047
Rajasthan	-	-	-	-	104236	173875	25703	-	90000	837615	-	1231429	1231429
Sikkim	-	-	-	-	-	-	-	-	-	2382	-	2382	2382
Uttarakhand	-	-	-	-	-	-	-	-	-	6000	-	6000	6000

Figures rounded off.

5. Parrot green marble from Jhilo, Sikar district, Rajasthan.
6. Chocolate-brown or wood-finish marble from Mandaldeh, Chittorgarh district, Rajasthan.
7. Purple marble from Tripura Sundari, Banswara district, Rajasthan.
8. Blue marble from Desuri, Pali district, Rajasthan.

POLICY

The Central Government has notified Marble Development and Conservation Rules, 2002 (notified on 15.5.2002) for conservation, systematic development and scientific mining of marble with a purpose to provide a uniform framework that would be applicable throughout the country. The maximum period for which a lease may be granted shall not exceed thirty years and minimum period shall not be less than twenty years. Further, no lease is to be granted unless there is mining plan duly approved by the State Government or any person authorised in this behalf by that Government.

As per the Export-Import Policy, 2015-20, and the Foreign Trade Policy thereunder, the imports of crude or roughly-trimmed, marble & travertine blocks, slabs and ecaussine & calcareous monumental or building stone are restricted while imports of alabaster are freely allowed under heading No. 2515. On the other hand the import of items falls under ITC(HS) Code 68022110 to 68022190 are freely allowed. The Ministry of Commerce and Industry, Deptt. of Commerce, vide Notification No.27(RE-2015)/2015-20, dated 19.9.2015 has amended in the Schedule I (Imports) of the ITC(HS) Classification of Export and Import items. After amendment the entry would read as “Import permitted freely provided cif value is US$200 and above per square metre". Import of marble, classified under Chapter 25 and 68 from Bhutan shall be subjected to a combined annual quota of 10 lakh sq. ft (5,882 tonnes). The quota came into effect from the date of this Notification and shall operate on financial year basis. Monitoring and allocation of the quota shall be made by the Government of Bhutan. The combined annual quota for import of marble from Bhutan will be 5,882 tonnes as per Directorate General of Foreign Trade.

USES AND SPECIFICATIONS

Marble is used widely in buildings, monuments and sculptures. Its utility value lies in its beauty, strength and resistance to fire and erosion. Marble has its application in interior and exterior wall cladding, interior and exterior paving, fireplace facing and hearth, lavatory tops, residential and commercial counter tops, table tops, statues and novelty items. The other non-conventional uses of marble are in toothpaste, paint, whiting, agricultural lime, etc.

Different marble varieties are used basically as both interior and exterior vertical wall cladding and flooring. Their use as structural elements (masonry), statues, epitaphs, graves, etc. is quantitatively less with funeral art accounting for the largest percentage. In interior applications, such as, for floors, marble is used in the form of 20 mm thick cut-to-size slabs. The slabs are also used for interior and outer facings, stairs, table tops, kitchen platforms, etc. The tiles in sizes ranging from 10 x 10 cm to 60 x 60 cm are used for floors, dadoes and for skirting in thickness ranging from 10 to 20 mm. The selected marble blocks free from cracks and other inclusions are used for making artifacts, such as, carved figures, handrails and balustrade for staircases, jalis, fire places, flower vases and many other pieces of art.

The existing Indian standards for marbles (blocks, slabs and tiles) are covered under IS:1130-1969 (reaffirmed in 2008).

WORLD SCENARIO

Resources of natural stones are substantial in the world and almost every country produces dimension stones. Major exporting countries of marble in the world are Turkey, Italy, Greece, Spain and Iran.

The world famous Carrara deposits in Italy have been worked over 2,000 years, and according to the statements of experts who have examined the mountains of marble in this locality, the quality of high-grade material yet to be excavated is so great that Carrara promises to supply the present rate of demand for its marbles for centuries to come.