

FELSPAR



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(Part- III : MINERAL REVIEWS)

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FELSPAR

(FINAL RELEASE)

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

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Felspars are one of the most abundant rock-forming minerals in the earth's crust, comprising a complex series of aluminosilicates with varying amounts of potassium, sodium, calcium and though rarely barium. Common amongst these are the potash felspars called orthoclase and microcline ($K_2O.Al_2O_3.6SiO_2$), sodium felspar called albite ($Na_2O.Al_2O_3.6SiO_2$) and calcium felspar called anorthite ($CaO.Al_2O_3.2SiO_2$). The sodium and calcium felspars form a continuous series of solid solutions and are together termed plagioclase felspars. Though felspars occur in a variety of colours, pink, brown and grey felspars are known to be common. The gem variety of felspar is known as moon stone.

RESOURCES

As per the UNFC system, the total resources of felspar in the country as on 1.4.2010 are estimated at about 132 million tonnes of which 44 million tonnes (34%) constitute as "Reserves" and 88 million tonnes (66%) as "Remaining Resources". In terms of grades, Pottery/Ceramic grade accounts for 61%, Others/Unclassified & Not-known grades 31% and Glass grade 8% of the total resources. By States, Rajasthan alone accounts for about 66% of the total resources followed by Andhra Pradesh (16%), Tamil Nadu (7%), Bihar (4%) and West Bengal (3%) (Table - 1).

EXPLORATION

No specific exploration for felspar was reported by any State and Central Government Departments during the year 2013-14.

PRODUCTION, STOCKS & PRICES

The production of felspar at 1,413 thousand tonnes in 2013-14 decreased by 3% as compared to the preceding year.

There were 234 reporting mines in 2013-14 as against 212 mines in the previous year. Besides, the production of felspar was also reported from

159 mines as an associated mineral. Twenty-two primary mines and 18 associate mines producing more than ten thousand tonnes annually, accounted for approximately 62% of the total production in 2013-14. Eight principal producers reported 25% of the total production during the year under review.

Among the States that produced felspar, Rajasthan with contribution of 59% of the total production was at the top followed by Andhra Pradesh (35%), Tamil Nadu (4%) and the remaining 2% was contributed by West Bengal and Jharkhand. (Tables- 2 to 5).

The mine-head closing stock of felspar for the year 2013-14 were 644 thousand tonnes as against 596 thousand tonnes in the previous year (Table- 6).

The average daily employment of labour in 2013-14 was 2,168 as against 1,987 in the previous year. Prices of felspar are furnished in the General Review on 'Prices'.

MINING & MARKETING

Felspar is won chiefly from pegmatites. Mining is carried out, generally, by opencast method. Significant output of felspar is obtained as an associated mineral during mining of quartz, mica and to some extent beryl. Bhilwara and Ajmer districts in Rajasthan and Mahaboobnagar and Sri Potti Sriramulu Nellore districts in Andhra Pradesh (erstwhile) are the important mining areas in the country.

The pegmatite bodies are exposed after the removal of top soil and overburden. It is then broken either manually or by drilling and blasting.

The broken materials are then sorted out and sized. Crushed felspar is separated mechanically by suitable screens to meet market requirements. The general demand is for 30/80 mesh, 100 mesh, 150 mesh, 180 mesh, 200 mesh and 250 mesh material. Washing is sometimes done to upgrade the product by removing clay, etc. The processed felspar is bagged and despatched to different consignees.

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

(In tonnes)

Grade/State	Reserves			Remaining Resources						Total Resources (A+B)			
	Proved STD111	Probable		Feasibility STD211	Pre-feasibility STD221	Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334		Total (B)		
		STD121	STD122									STD222	
All India : Total	24545334	8278221	11679685	44503240	14672107	4427797	12967154	4191330	9874858	41549070	149895	87832212	132335451
By Grades													
Glass	2127308	413588	610399	3151295	1530128	389984	3732761	103662	107681	1736097	24050	7624363	10775658
Pottery/Ceramic	20007984	6425719	9721028	36154731	11367336	3080724	6946326	2539406	1951784	19203824	-	45089400	81244131
Others	702228	106195	218541	1026964	478077	17139	181017	203637	51876	350587	1800	1284133	2311097
Unclassified	617465	1202352	623834	2443651	1025842	704054	1371461	85003	143852	12767336	-	16097547	18541198
Not-known	1090349	130367	505883	1726599	270725	235896	735590	1259622	7619664	7491225	124045	17736767	19463366
By States													
Andhra Pradesh	5469094	408487	2301765	8179346	2504362	274566	2181547	60776	5476671	2975298	145995	13619215	21798561
Bihar	-	-	35147	35147	-	-	-	-	4195	4871499	-	4875694	4910841
Haryana	-	-	-	-	-	-	-	-	-	72164	-	72164	72164
Jharkhand	5675	-	274971	280646	-	40766	279433	32510	120388	881045	-	1354142	1634788
Karnataka	119525	69575	107055	296155	-	-	-	25000	135133	177300	3900	341333	637488
Madhya Pradesh	-	-	-	-	-	-	-	-	-	339851	-	339851	339851
Maharashtra	228655	-	91462	320117	-	-	423180	-	-	485606	-	908786	1228903
Meghalaya	-	-	-	-	-	-	-	-	-	37449	-	37449	37449
Rajasthan	18083327	7793709	8837983	34715019	9839519	4042309	9666832	3154174	668648	25859733	-	53231215	87946234
Tamil Nadu	613184	6450	31302	650936	2328227	70156	416162	18870	69822	5447875	-	8351112	9002048
Uttar Pradesh	-	-	-	-	-	-	-	-	-	200000	-	200000	200000
West Bengal	25874	-	-	25874	-	-	-	900000	3400000	201250	-	4501250	4527124

Figures rounded off.

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**Table – 2 : Principal Producers of Felspar
2013-14**

Name and address of producer	Location of mine	
	State	District
Laxmi Marble & Granite (P) Ltd, Opposite Rly Station, Neem ka Thana, Sikar-332 713, Rajasthan.	Rajasthan	Sikar
Bijendra Kumar Goyal, 35-36, Shivnagar, Murlipura Scheme, Jaipur- 302 013, Rajasthan.	Rajasthan	Tonk
Shri Jaya lakshmi Minerals, 6-3-609/101, Flat 402, Seetharama Enclave, Anandnagar Colony, Khairatabad, Hyderabad- 500 004, Andhra Pradesh.	Andhra Pradesh	Mahaboob- nagar
Madhu Devi, 108, Himmatnagar, Gopalpura Mode, Tonk Road, Jaipur- 302 018, Rajasthan.	Rajasthan	Sikar
Trimax Industries (P) Ltd., No. 1, Subbaraya Avenue, C.P.Ramaswamy Road, Alwarpet, Chennai- 600 018 Tamil Nadu.	Andhra Pradesh	Mahaboob- nagar Nizamabad
Sadhana Minerals, 1/116, Masthanvali Complex, C.P. Ramaswamy Road, Anil Nagar, Bypass road Gudur, Chillakur Post, Gudur- 524 412, Andhra Pradesh.	Andhra Pradesh	Sri Potti Sriramulu Nellore
Pankaj Kumar Tak, Sheetal Bhavan, Post. Kharwa, Masuda, Ajmer- 305 202. Dist. Ajmer, Rajasthan.	Rajasthan	Ajmer
Hitesh Goyal, Jaitaran, Nagori Gate Pali- 306 302, Rajasthan.	Rajasthan	Sikar

Note: All references in respect of Andhra Pradesh relate to its undivided statehood position (prior to its bifurcation).

The processing of felspar usually involves flotation or magnetic separation to remove accessory minerals like mica, garnet, ilmenite and quartz. Silica in the form of quartz in pegmatites and silica sand in felspathic sand deposits are obtained as co-products

of mining. Though in some applications, presence of silica is advantageous, most users require extremely pure and finely-ground grades of felspar. Glass grade felspar is usually the most coarse material. The filler application demands finely-ground material. A modern processing plant located at Kodthal in Mahaboobnagar district of Andhra Pradesh and 12 processing plants in Rajasthan cater to Ceramics and Glass industries.

USES

Potassium felspar obtained from pegmatites is used traditionally as a source of alumina and alkali in ceramic and glass industries which account for more than 90% consumption. It also finds use as functional filler in paint, plastic, rubber and adhesive; as a binding agent in abrasives; and in the manufacture of artificial teeth, fertilizer and white cement. Certain varieties of felspar (like moonstone) are used as semi-precious stones.

In Ceramic Industry, felspar is used as fluxing agent which facilitates softening, melting and wetting of batch constituents. The flux controls the degree of vitrification of the ceramic body during firing. Potash felspar has technical advantages over sodium felspar. After clay, felspar is the biggest ingredient in the raw material batch for ceramic bodies. Typical felspar contents are < 25% in earthenware, 25-35% in sanitaryware, 15-30% in whiteware, 10-55% in floor and wall tiles and 30-55% in electrical porcelain. For Glass Industry, the alkali content in felspar acts as a flux, which not only facilitates lowering the glass batch melting temperature but also cuts production cost. The mineral is primarily added for alumina content which varies in its application from 0.05% for flat glass, 8% for container glass, 11% for some speciality glasses and up to 18% for insulation fibre glass.

In the abrasive industry, plagioclase felspar is used as a mild abrasive material in scouring powders because of its semi-conchoidal fracture and its hardness which is 6 on Mohs' scale. In Refractory Industry, felspar is used as one of the batch constituents in the manufacture of acid-proof refractories. In Welding Electrode Industry, felspar is used as a flux which acts as an arc stabiliser and helps to protect the molten metal from aerial oxidation.

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Table – 3 : Production of Felspar, 2011-12 to 2013-14 (P)
(By States)

(Qty in tonnes; value in ₹'000)

State	2011-12		2012-13		2013-14 (P)	
	Quantity	Value	Quantity	Value	Quantity	Value
India	835526	255408	1459008	428633	1412518	415317
Andhra Pradesh	289261	79262	504000	160888	495858	151397
Jharkhand	15265	3163	6525	1693	5476	1938
Rajasthan	488365	159571	892257	245970	833458	237078
Tamil Nadu	37604	11465	42666	14934	57884	20282
West Bengal	5031	1947	13560	5148	19842	4622

Table – 4 : Production of Felspar, 2012-13 & 2013-14 (P)
(By Frequency Groups)

(Qty in tonnes)

Production Group	No. 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	212 (163)	234 (159)	1459008	1412518	100.00	100.00	-	-
Up to 500	87(56)	91(53)	21155	24635	1.45	1.74	1.45	1.74
501-1000	27(21)	38(21)	35425	43795	2.43	3.10	3.88	4.84
1001-3000	47(42)	53(42)	160995	173255	11.04	12.26	14.92	17.10
3001-5000	21(15)	14(12)	142396	100797	9.76	7.14	24.68	24.24
5001-10000	17(14)	16(13)	217599	201384	14.91	14.26	39.59	38.50
10001 & above	13(15)	22(18)	881438	868652	60.41	61.50	100.00	100.00

Figures in parentheses indicate number of mines of felspar associated with asbestos, china clay, mica, quartz, silica sand & talc/steatite/soapstone.

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Table – 5 : Production of Felspar, 2012-13 & 2013-14 (P)
(By Sectors/States/Districts)

(Qty in tonnes; value in ₹'000)

State/District	2012-13			2013-14 (P)		
	No.of mines	Quantity	Value	No.of mines	Quantity	Value
India	212(163)	1459008	428633	234(159)	1412518	415317
Public sector	2(1)	12078	4015	1(1)	19021	3684
Private sector	210(162)	1446930	424618	233(158)	1393497	411633
Andhra Pradesh	40(60)	504000	160888	31(61)	495858	151397
Chittoor	1 *	-	-	-	-	-
Cuddapah	2 *	-	-	1	3	++
Khammam	1	1100	330	1	600	180
Krishna	(1)	20	4	-	-	-
Mahaboobnagar	22(17)	364027	115199	21(18)	307648	85356
Medak	(7)	25867	6783	(6)	27453	10816
Nalgonda	(3)	10731	3136	(3)	17583	5435
Sri Potti Sriramulu	12(26)	72987	23921	7(29)	101222	35804
Nellore						
Nizamabad	(1)	1820	819	(1)	1851	426
Rangareddy	2(5)	27448	10696	1(4)	39498	13380
Jharkhand	4(6)	6525	1693	2(3)	5476	1938
Dumka	(1)	2178	457	-	-	-
Giridih	(2)	1495	660	(2)	3465	1572
Koderma	1	974	195	1	496	145
Jamtara	1	193	24	1	1365	191
Latehar	1(3)	1685	357	-	-	-
Palamu	1 *	-	-	-	-	-
Ranchi	-	-	-	(1)	150	30
Karnataka	1 *	-	-	1 *	-	-
Bengaluru	1 *	-	-	1 *	-	-
Rajasthan	166(52)	892257	245970	200(47)	833458	237078
Ajmer	80(29)	251772	56573	84(27)	224808	54687
Bhilwara	64(9)	243527	71448	87(9)	283267	92635
Chittorgarh	-	-	-	1	7780	3112
Jaipur	5(4)	75538	12427	6(3)	42136	10499
Rajsamand	12(1)	10972	4427	14	32953	13732
Sikar	4(5)	243664	82861	4(4)	180727	52619
Sirohi	1	58744	16390	1	230	58
Tonk	(4)	8040	1844	3(4)	61557	9736

(Contd.)

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Table- 5 (Concl.)

State/District	2012-13			2013-14(P)		
	No.of mines	Quantity	Value	No.of mines	Quantity	Value
Tamil Nadu	1(43)	42666	14934	(46)	57884	20282
Coimbatore	(3)	1793	1069	(3)	2138	1150
Dindigul	(5)	5102	1267	(5)	9636	2094
Erode	(7)	1838	669	(10)	3600	1924
Karur	(12)	5259	2172	(11)	5672	2934
Madurai	(1)	855	342	(1)	1001	400
Namakkal	(6)	4494	2301	(6)	5849	2364
Salem	(8)	22966	6762	(9)	29560	8999
Tiruppur	(1)	315	308	(1)	428	417
Thiruvarur	1	44	44	-	-	-
West Bengal	(2)	13560	5148	(2)	19842	4622
Birbhum	(1)	1526	1177	(1)	821	938
Purulia	(1)	12034	3971	(1)	19021	3684

Figures in parentheses indicate number of mines of felspar associated with asbestos, chinaclay, mica, quartz, silica sand & talc/steatite/soapstone.

* Reported labour only.

Note: All references in respect of Andhra Pradesh relate to its undivided statehood position (prior to its bifurcation).

**Table – 6 : Mine-head Stocks of Felspar,
2012-13 & 2013-14 (P)
(By States)**

State	(In tonnes)	
	2012-13	2013-14
India	596495	644472
Andhra Pradesh	275266	284559
Jharkhand	1769	786
Karnataka	4266	1345
Madhya Pradesh	11	11
Rajasthan	304951	342648
Tamil Nadu	10176	15038
West Bengal	56	85

Physical properties like good dispersability, chemical inertness, stable pH, low free silica content and brightness of 89-95% improve the filler properties of finely-ground felspar materials.

SPECIFICATIONS

The BIS specifications of potash felspar and soda felspar for use in Glass and Ceramic industries are as per IS: 9749-2007 (Reaffirmed in March 2012). The producers prefer the following specifications for various ceramic products:

Sanitaryware

K₂O 11-14%, Na₂O 2-7%, SiO₂ 62-68%, Al₂O₃ 16-20%, Fe₂O₃ 0.25% (max.). The deleterious constituents are TiO₂ and MgO.

Insulators

K₂O 11-12.5%, Na₂O 2-3% (4% max.), SiO₂ 64.5-68%, Al₂O₃ 17-21%, Fe₂O₃ 0.48% (max.) (but Fe₂O₃ less than 0.1% is accepted).

Ceramic Tiles

K₂O 9%, Na₂O 4%, Al₂O₃ 18% (min.), Fe₂O₃ 1% (max.), K₂O+Na₂O 14% (max.). Both sodium and potassium felspars are used.

Crockeryware

K₂O 12-15%, Na₂O 3.69%, SiO₂ 63.05%, Al₂O₃ 19.56% and Fe₂O₃ 0.10%.

Glass

The physical requirements specified are that of the material in powder form prepared from natural felspar which should be free from foreign matter; moisture shall not exceed 2% by mass; specific gravity should be between 2.5 and 2.7; PCE should be 8 to 10 orton (1,225 -1,260 °C); and fired-colour shall be glassy-white and free from specks.

However, the producers accept felspar analysing 10% K₂O + Na₂O, 64-68% SiO₂, 15-19% Al₂O₃ and 0.15% Fe₂O₃.

Refractory

There is no BIS specification for felspar for use in Refractory Industry. The Industry prefers potash felspar analysing 11 to 12% Na₂O₃ + K₂O, 60 to 70% SiO₂, 20 to 24% Al₂O₃, 1.5% Fe₂O₃, 0.8% LOI, 4 to 6 orton PCE and 2.5 to 10 cm material.

Abrasive

Felspar in both powder and lump forms is used and white or pink mineral is preferred. As per the users in the Organised Sector, felspar that analyses SiO₂ 65%, Al₂O₃ 18%, Na₂O + K₂O 10% (max.), Fe₂O₃ 0.45%, MgO 0.5%, CaO 0.6% and LOI 2% (max.) is generally consumed.

Electrode

Potash felspar, analysing 12 to 14% K₂O, 1 to 3% Na₂O, 63 to 67% SiO₂, 17 to 20% Al₂O₃ and below 0.3% Fe₂O₃, is preferred.

INDUSTRY

Ceramic Industry in India is about a century old and has formed a sizeable industrial base. The products generally comprises ceramic tiles, sanitaryware and crockery items. The Industry has its base both in large and small-scale sectors with wide variance in type, size, quality and standard. Manufacturing units are spread all-over India. The state-of-the-art ceramic goods are manufactured in the country. The domestic technology is at par with international standard. During the last two decades, there has been a phenomenal growth in the field of high end technical ceramics to meet specific demands of industries like high alumina ceramic, cutting tools and other structural ceramics.

CONSUMPTION

Felspar is used mainly in Ceramic, Glass and Cement Industries. Minor quantities of felspar are consumed by Refractory, Abrasive and Electrode Industries. The total consumption of felspar in 2013-14 was estimated at 4,96,600 tonnes in the Organised Sector. Of the total consumption, the Ceramic Industry accounted for 70%, Cement Industry about 16%, Glass Industry 13% and the remaining 1% by Refractory, Abrasive, Electrode, Coal Washery and Cosmetics Industries (Table- 7).

**Table- 7 : Estimated Consumption* of Felspar
2011-12 to 2013-14 (P)
(By Industries)**

	(In tonnes)		
Industry	2011-12	2012-13(R)	2013-14(P)
All Industries	460300	481600	496600
Abrasive	600(3)	600(3)	600(3)
Cement	40800(10)	70000(11)	79800(11)
Ceramic	348300(49)	350000(49)	350000(49)
Chemical	100(2)	100(2)	100(2)
Coal washery	++(1)	++(1)	++(1)
Cosmetics	++(1)	++(1)	++(1)
Electrode	600(18)	600(21)	600(21)
Glass	69100(51)	59500(51)	64700(51)
Refractory	800(14)	800(14)	800(14)

Figures rounded off. Data collected on non-statutory basis. Figures in parentheses denote the number of units in organised sector reporting consumption. (*Includes actual reported consumption and/or estimates made wherever required).*

WORLD REVIEW

World resources of felspar are large and adequate enough to meet the anticipated world demand and hence quantitative data on resources of felspar in granites, pegmatites and felspathic sands have not been compiled. The world production of felspar was estimated at 25.71 million tonnes in 2013. Major producers were Turkey (35%), Italy (18%), China (8%), India (5%) and Thailand (4%) (Table-8).

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**Table – 8 : World Production of Felspar
(By Principal Countries)**

(In '000 tonnes)			
Country	2011	2012	2013
World: Total	23511	26490	25706
Algeria	132	162	259
Argentina	217	274	270 ^e
Brazil	333	247	100 ^e
China ^(e)	2100	2100	2100
Czech Republic	407	445	411
Egypt	406	400 ^e	400 ^e
Ecuador	130	153	357
France ^(e)	600	600	550
Germany	218	205	200 ^e
India	836	1459	1413
Iran	577	580 ^e	650 ^e
Italy ^(e)	4700	4700	4700
Japan ^(e) @	104	100 ^e	100 ^e
Korea, Rep. of	384	360	343
Malaysia	380	483	314
Mexico	382	380	164
Poland	539	487	483
Portugal	187	167	139
Russia ^e	160	160	160
Spain	662	530	603
Thailand	1041	1101	1073
Turkey	7076	9480	9000 ^e
Ukraine	179	146	134
USA	590	525	490 ^e
Vietnam ^e	200	200	200
Other countries	971	1206	1093

Source: World Mineral Production, 2009-13.
@ Including weathered granite felspar.

FOREIGN TRADE

Exports

Exports of felspar (natural) increased marginally to 437 thousand tonnes in 2013-14 from 401 thousand tonnes in the previous year. Exports were mainly to Bangladesh (20%), Indonesia (16%) and Vietnam (12%). Exports value of felspar (cut & uncut) decreased drastically to ₹2.27 crore in 2013-14 from ₹4.24 crore in 2012-13. Exports of felspar (cut & uncut) were mainly to USA (47%), Hong Kong (30%) and UK (13%) (Tables- 9 to 12).

Imports

Imports of felspar (natural) decreased sharply to 42,448 tonnes in 2013-14 from 59,956 tonnes in 2012-13. Imports were mainly from Thailand (86%) and China (13%). In 2013-14, import value of felspar (cut & uncut) increased sharply to ₹124.53 lakh from ₹35.90 lakh in the previous year. In 2013-14, imports value of uncut felspar was ₹124.22 lakh and that of cut felspar was ₹31,000 only. Imports of felspar (uncut) were mainly from Tanzania and Peru (Tables- 13 to 16).

**Table – 9 : Exports of Felspar (Natural)
(By Countries)**

Country	2012-13		2013-14	
	Qty (t)	Value (₹'000)	Qty (t)	Value (₹'000)
All Countries	401422	1890429	437144	2234475
Indonesia	64375	337255	69076	373044
Vietnam	35238	196613	52925	332230
Bangladesh	66463	239532	86337	315306
China	31946	167501	41240	220069
Iran	29304	170553	29397	176784
Thailand	29894	147094	31910	169623
UAE	41380	187215	31770	145749
Chinese Taipei/ Taiwan	14045	78874	20123	108071
Malaysia	22340	100598	16833	83226
Turkey	38065	94218	23185	68769
Other countries	28372	170976	34348	241604

**Table – 10 : Exports Value of Felspar
(Cut & Uncut)
(By Countries)**

Country	(Value in ₹'000)	
	2012-13	2013-14
All Countries	42421	22694
USA	36744	10557
Hong Kong	1780	6776
UK	++	2976
Thailand	1223	1180
Canada	++	834
Germany	257	343
Netherlands	++	27
Other countries	2417	1

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**Table – 11 : Exports of Felspar (Cut)
(By Countries)**

Country	2012-13		2013-14	
	Qty (‘000 Carat)	Value (₹‘000)	Qty (‘000 Carat)	Value (₹‘000)
All Countries	448	40600	1102	22453
USA	428	36744	544	10557
Hong Kong	7	846	459	6764
UK	-	-	33	2976
Thailand	5	1223	60	1180
Canada	-	-	4	834
Germany	1	241	1	114
Netherlands	-	-	1	27
Other countries	7	1546	++	1

**Table – 12 : Exports of Felspar (Uncut)
(By Countries)**

Country	2012-13		2013-14	
	Qty (‘000 Carat)	Value (₹‘000)	Qty (‘000 Carat)	Value (₹‘000)
All Countries	++	1823	++	241
Germany	++	16	++	229
Hong Kong	++	934	++	12
Other countries	++	873	-	-

**Table – 13 : Imports of Felspar (Natural)
(By Countries)**

Country	2012-13		2013-14	
	Qty (‘000 Carat)	Value (₹‘000)	Qty (‘000 Carat)	Value (₹‘000)
All Countries	59956	252204	42448	212990
Thailand	52690	150808	36540	144119
China	3939	59919	5402	61915
Turkey	304	2760	376	3928
Malaysia	103	2057	126	2929
Korea, Rep. of	-	-	4	98
Other countries	2920	36660	++	1

FELSPAR

**Table – 14 : Imports Value of Felspar
(Cut & Uncut)
(By Countries)**

(Value in ₹'000)

Country	2012-13	2013-14
All Countries	3590	12453
Tanzania	3393	8112
Hong Kong	32	3231
Peru	-	731
Turkey	-	343
USA	5	31
Mozambique	-	5
Other countries	160	-

**Table – 15 : Imports of Felspar (Cut)
(By Countries)**

Country	2012-13		2013-14	
	Qty (‘000 Carat)	Value (₹‘000)	Qty (‘000 Carat)	Value (₹‘000)
All Countries	-	-	++	31
USA	-	-	++	31

**Table – 16 : Imports of Felspar (Uncut)
(By Countries)**

Country	2012-13		2013-14	
	Qty (‘000 Carat)	Value (₹‘000)	Qty (‘000 Carat)	Value (₹‘000)
All Countries	8	3590	2	12422
Tanzania	8	3393	1	8112
Hong Kong	++	32	++	3231
Peru	-	-	1	731
Turkey	-	-	++	343
Mozambique	-	-	++	5
Other countries	++	165	-	-

FUTURE OUTLOOK

India is the third largest tiles market in the world. While the global tiles production grew at an annualised rate of 6.3% for the period 2006-2013, tiles production

in India grew at almost double the rate at 12% during the same period. Ceramic tiles that accounts for close to 60% of the total tiles demand in India is expected to grow at a CAGR of 8.7% for the period 2014-2019.