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MINISTRY OF ECONOMY

NATURAL STONES



Industry



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NATURAL STONES

Natural stone is the oldest construction material used by man. From ancient times until today, natural stones have played an important role in Turkish industry and architecture.

Marble has been processed and used by all civilizations in Anatolia. Since ancient times marble has been used as an architectural decoration in order to beautify the floors and walls of palaces, temples and public areas. The statues and monuments dating back to the Hittites, Greek and Roman amphitheatres, arenas and other works of art; the palaces, baths, caravanserais, mosques and medreses of the Seljuk Turks, and Ottoman mosques, minarets and fountains all prove that marble has been extensively used in Anatolia.

The Roman, Seljuk and Ottoman empires in particular used marble in their buildings. Two of the seven ancient wonders of the world are in Bodrum and Ephesus. The most famous was the Temple of Artemis, which was one of Seven Wonders of the World. It was the first temple in ancient world that was made of marble. The second one is Mausoleum of Halicarnassus which was a tomb built between 353 and 350 BC at Halicarnassus. It was made of alabaster and stood approximately 45 meters (135 feet) in height. The Aspendos theatre in Side, in the south part of Turkey, is the best-preserved Roman theatre. It was made of calcareous stone. It seats 15,000 persons and has remained perfectly intact for 1800 years while earthquakes, wars and time have destroyed most of the surrounding monuments.

The natural stone industry consists of basic stones such as marble, granite and other natural building stones such as limestone, travertine, basalt, sandstone, serpentine, diabase, and slate. In addition to these stone varieties, in recent years slate stone, pebble stone and tufa are coming to the forefront in Turkey's stone production and export.

Today natural stone and stone products are used by different end-users. The main end-users are stone processing industry, the building industry and the consumer market. The main uses of natural stone are tiles for floors and paving, special works such as balustrades, columns, fireplaces, fountains, grave stones, structural works like sets and curb stones, internal & external wall cladding and stairs/steps.

Turkey is a land of marble .

In terms of natural stones, and especially marble, Turkey has ample resources since it is located in the Alps mountain range. Turkey has been one of the oldest marble producers in the world with its 4,000 years of background in marble production starting on the Marmara Island.

Turkey has immense reserves of marble, travertine, onyx, conglomerate, breccias and magmatic rocks. Turkey's total marble reserves are estimated at about 5.2 billion m³ . 13.9 million tons. Turkey has an exploitable reserve of 4 billion m³ for marble deposits; the same figure is 2.8 billion m³ for travertine and 1 billion m³ for granite. According to estimates, Turkey has 40 percent of the world's total marble reserves. Having a considerable and quite diverse mineral base, Turkey has one of the world's largest natural stone reserves, which is considered to be excellent quality and exclusive due to great variety of colors and textures.

Turkey is among the world's most important natural stone manufacturers with its huge reserves and well-developed processing industry.

Common characteristic properties of Turkish marbles

Quality - free from any cracks or other defects

Color - there is a wide range of colors, which allows a wide range of choice

Sizes - sufficient to yield big blocks

Uniformity - consistency in quality

Pattern - decorative arrangements of colors and crystal composition are possible
Good technical properties result in natural resistance to air pollution, wear and dirt.

Besides these common properties every marble has its specific colors and composition, which make it possible to use them in the production of exclusive products.

Important reserves of marble are located in all regions of Anatolia and Thrace. Reserves are concentrated in Afyon, Balıkesir, Denizli, Tokat, Muğla and Çanakkale. ,

The best-known varieties of Turkish marble

Elazi Cherry: Elazığ cherry is made of serpentinite and carbonated ultra-basic rocks. Red-green pebbles are attached with the same colored cement. It can be used in interior / exterior plating and decoration. Some structural fissures are found in blocks.

Supren: It generally shows cataclastic texture and gray-white colors which have red-pink and yellow veins, zones and patches. It can be used in interior / exterior plating, floor covering and decoration.

Leopard (Salome): This marble of generally cataclastic texture has red-yellow veins, knots and zones in a white background. It can be used in interior/ exterior plating, floor covering and decoration.

Milas Kavaklıdere: It has a white color and occasional purple veins. There are some localized fractures in blocks.

Aegean Bordeaux: It can be used in interior/ exterior plating and decoration. There are some localized fractures in the block, gives good plates. Cutting sides and corners and shaping are difficult. It can be split at the fissures during polishing.

Aksehir Black: This marble showing cataclastic texture in general, has white calcite veins and brown styloliths and can be used in interior / exterior plating or decorative arrangements. It can be easily cut and polished.

Thracian Granite: It can be used in interior / exterior plating, floor covering or decoration. Its suitability for taking blocks and plates and cutting sides and corners is good; while the ability to shape and polish is normal. The cutting rate is slow.

Ayvalık Granite: It can be used in interior / exterior plating, floor covering or decoration. Its suitability for taking blocks and plates and cutting sides and corners is good; while the ability to shape and polish is normal. Cutting can be slow.

Afyon White: It contains occasional yellow veins. Its suitability for taking blocks and plates and cutting sides and corners, polishing and the shaping and the cutting rate are all excellent. There is no risk of rusting.

Afyon Tigerskin: Its suitability for extracting blocks and plates, cutting sides and corners, the shaping, and the cutting rate are all good. There is no rusting risk. Suitability for polishing is normal. This marble has breccia-like formations including light knots and elements embedded in dark-gray masses.

Marmara White: Its suitability for making blocks and plates, cutting sides and corners; and cutting rate are all good. There is no rusting risk.

Mustafa Kemalpaşa White: This marble is made of large calcite crystals manifesting grano blasting texture and pressure twinning and has a white color. It can be used in interior / exterior plating, floor covering and decoration. Its suitability for taking blocks and plates, cutting sides and corners, the shape ability and the cutting rate are all good. There is no rusting.

Karacabey Black: Some structural fissures have been observed in blocks. It can be used in interior plating and decoration. Its suitability for taking plate and the cutting rate are normal. The suitability for cutting sides and corners is good. There is no risk of rusting.

PRODUCTION

Quality and exclusivity are the major characteristics of Turkish marbles ..

More than 1.500 marble quarries, 2.000 factories and about 9.000 workshops operate in the sector. 90% of quarries are located in the west of Anatolia, mainly in the Aegean and Marmara Regions.

The production of natural stones in Turkey has grown rapidly in the last decade. Large scale private companies invested in integrated processing plants, which resulted in developments in the local market. With the introduction of modern production equipments and methods, Turkey has become one of the world's prominent natural stone producers.

The increases in production, the vitality of the construction sector in the domestic market and the presence of new technologies have contributed to the widespread use of natural stone as a construction material. Parallel with the increase in both domestic and foreign/international demand, the Turkish marble industry has shown very good performance in terms of quality and production capacity.

Turkish marble manufacturers are aware of the importance of quality. They use the world's most advanced, fully electronic and completely automatic machines. Most companies have a large machinery park, and in the marble quarries the latest technology and high-tech machines are being used. The processing plants are capable of producing tiles, cutting in all commercially required sizes and quality standards.

Turkey's total production capacity of marble is 6.5 million m² and for granite 10, 5 million m². In last years marble production increased sharply. According to data from MIGEM (The General Directorate of Mining Affairs), major products which are produced in Turkey are marble, travertine, basalt and andesite. Granite production is the other important item in stone industry.

Granite, generally used in developed countries because of its characteristic properties, has begun to be widely used in Turkey, too. Today it is extensively used for the inner and outer decorations of buildings because of its appearance, durability against external conditions and high resistance to wear. In Turkey, in addition to large marble reserves, there are also granite reserves in many cities including Ordu, Rize, Trabzon, Balıkesir, Kırklareli, Kırşehir, Bolu, Zonguldak, Çanakkale and İzmir.

Though the natural stone quarrying and processing sector in Turkey is mainly composed of small and medium-sized companies, these companies are well organized under producers' associations and exporters' unions.

Natural stones produced in Turkey are manufactured in accordance with international standards. Companies affix the "CE Mark" in compliance with the Construction Products Directive of EU which has been in force in Turkey since 2007.

Turkish marble has been widely used in world-famous places due to its different color scales and quality. In the entrance hall of St. Peter's church, which is one of the most important churches in Vatican, marble from Afyon İncehisar has been used in columns and coverings. In the White House, USA, Elazığ cherry has been used in the place where the press statements are made. Some of the other places that Turkish marble has been used in the construction are the German and French Statehouses and the United States Congress Building. In Disneyland, the most famous amusement park in the world, 18 thousand m² of Turkish marble are used. In addition to these, many luxury hotels prefer to use Turkish marble in their floor coverings.

With its vast reserves, advanced processing techniques and capacity, Turkey is one of the world's important centers of the natural stone industry. These stones and marble processing technology are exhibited in international and local fairs organized in Turkey.

EXPORTS

Fast Growth in EXPORTS ..

Natural stone exports have developed rapidly in the last ten years. Turkish stone can be found in the buildings and sidewalks of 200 different countries. The total value of natural stone exports reached US\$ 2,2 billion in 2013. More than one third of Turkish natural stone exports are made to China with 44%. The other important trading partner is USA with a share of 13%, which is followed by Iraq, Saudi Arabia, India and UAE.

Highest value of exports belongs to block marble with 50%. Block marble ranks first with a US\$1,1 billion export value. In 2013, the main countries that Turkey exported block marble were the China, India, Taipei, Italy, Indonesia and Egypt.

Processed marble, which is cut and polished marble, ranked second with US\$ 1 billion in 2013. USA, Iraq, Saudi Arabia, France and Azerbaijan are the major buyers of block marble from Turkey.

Granite exports reached US\$ 20 million in 2013. The most important markets for these items are Azerbaijan, the Russian Federation, Germany, Iraq and Georgia.

Turkey's Natural Stone Exports (Quantity: ton, Value: US\$ Million)

HS Code	Product Group	2011		2012		2013		Growth in Value 2012/2013		Share % (2013)	
		Q	V	Q	V	Q	V	Q	V	Q	V
251511 251512	Block Marble	4.466	688	4.936	869	5.654	1.111	14,5	27,8	68,1	50,2
680221 680291	Processed Marble	1.684	814	1.851	899	2.019	1.018	9,1	13,2	24,3	46,0
251611 251612	Block Granite	442	15	212	9	96	6	- 54,5	- 38,6	1,2	0,3
680223 680293	Processed Granite	21	13	22	16	21	14	- 0,8	- 13,3	0,3	0,6
251400, 251520, 251620, 251690, 680100, 680210, 680229, 680292, 680299, 680300	Others	598	133	920	103	510	66	- 44,5	- 36,6	6,1	3,0
Total		7.211	7.211	1.663	7.940	1.897	8.301	2.214	4,5	16,7	100,0

Natural Stone Exports by Countries (Value: US\$ Million)

	2011	2012	2013	Growth in Value 2012/2013	Share % (2013)
China	635.264	784.760	980.146	24,9	44,3
USA	236.243	252.018	297.178	17,9	13,4
Iraq	81.734	99.076	113.466	14,5	5,1
Saudi Arabia	62.439	86.312	94.802	9,8	4,3
India	37.512	51.221	46.254	- 9,7	2,1
UAE	29.262	42.202	45.762	8,4	2,1
Azerbaijan	24.722	26.124	45.279	73,3	2,0
France	42.252	41.995	45.195	7,6	2,0
Russian Federation	28.233	30.036	41.784	39,1	1,9
Canada	43.207	36.573	40.420	10,5	1,8
England	45.711	45.375	37.965	- 16,3	1,7
Israel	35.240	37.581	37.692	0,3	1,7
Libya	7.377	19.181	35.347	84,3	1,6
Australia	22.191	24.631	24.906	1,1	1,1
Germany	26.961	24.481	21.252	- 13,2	1,0
Taiwan	17.657	23.321	20.309	- 12,9	0,9

Turkmenistan	15.303	12.437	19.133	53,8	0,9
Qatar	5.185	6.151	16.951	175,6	0,8
Indonesia	10.459	14.698	15.694	6,8	0,7
Italy	18.233	15.919	15.255	- 4,2	0,7
Top 20 Total	1.425.184	1.674.092	1.994.792	19,2	90,1
Total	1.663.097	1.897.129	2.213.925	16,7	100

TRADE FAIRS IN TURKEY

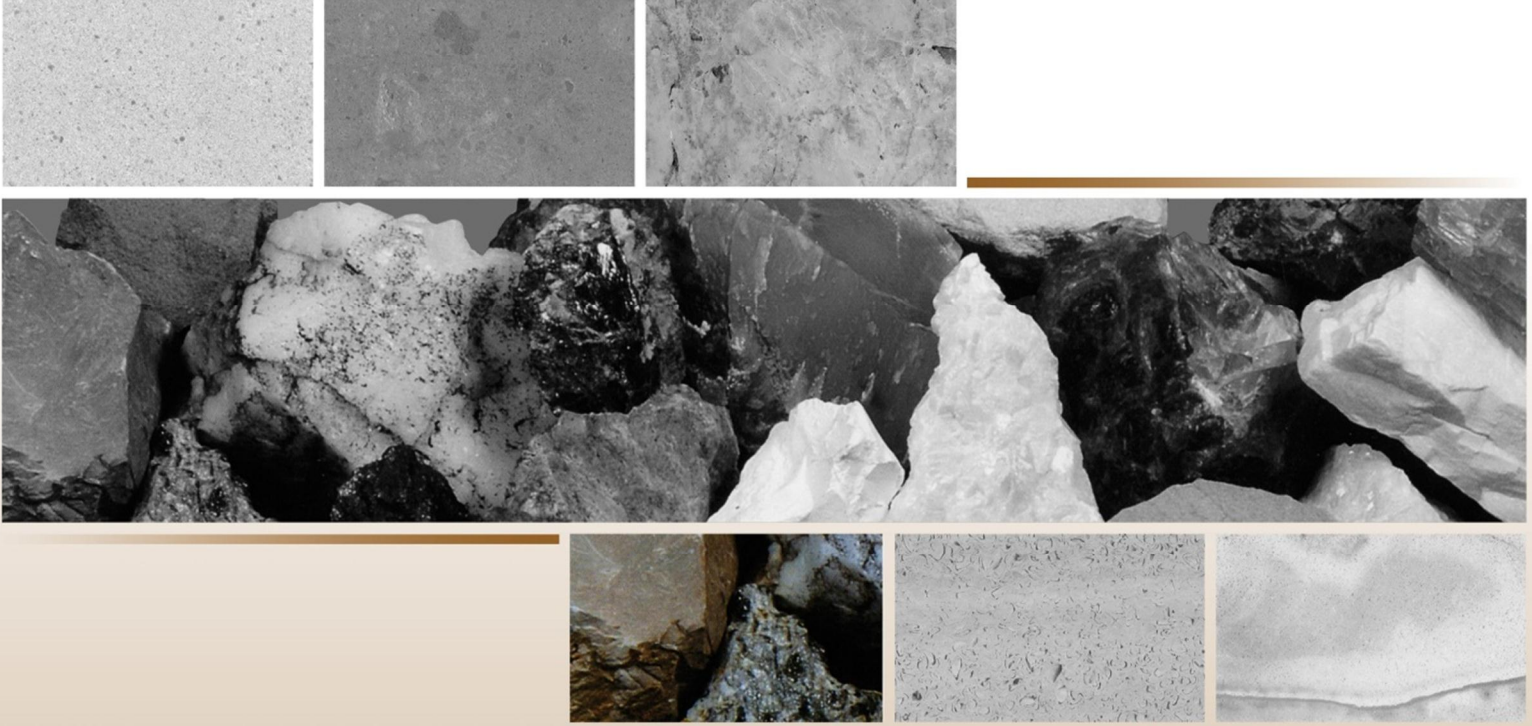
- Marble 20. zmir Uluslararası Doğal ve Teknolojileri Fuarı+21-24 March 2014, zmir
- Natural Stone 2014+4-7 June 2014, istanbul
- Stone Expo 2014+12 . 15 Haziran 2014, Afyon
- Mining Turkey 2014+27-30 Kasım 2014, istanbul

USEFUL LINKS

- Turkish Marble, Natural Stone and Machinery Manufacturers Association
www.tummer.org
- Ministry of Energy and Natural Resources
www.enerji.gov.tr
- General Directorate of Mining Affairs
www.migem.gov.tr
- Istanbul Minerals and Metals Exporters Association
www.immib.org.tr
- European & International Federation of Natural Stone Industries (EUROCOC)
www.euroroc.net



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