

## TENGIZITE – A NEW JEWELLERY STONE

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Tengizite is a new jewellery stone from the melting zone of rocks that occur near burned oil wells. Chemically it is an analogue of the andesite-dacite obsidian with high contents of calcium and iron. Character of iron distribution, its coordinating position in stone structure and also partial crystallization of melt with formation of diopside-wollastonite veins and spherulites result in a colour and texture rare for natural stones. Tengizite is characterized by certain decorative qualities: deep dark blue and black colours with transitions from one colour to another; charoite plication; massive and vein-spheroidal texture resulting from crystallization of olive-green aggregates of wollastonite and diopside. It is easily cut like obsidian and is processed similarly, getting ideal polishing. Tengizite is related to the II group of jewels such as agate, rodonite and obsidian.

Certified properties of tengizite are as follows: Mineral composition: silicate-calcium glass matrix with quartz, diopside, wollastonite, anorthite, magnetite and less pronounced trydimite, chalcedony and chlorite. Texture: vitrophyric, locally crystalline. Structure: massive, less often spheroidal, vein-spheroidal and porous. Colour: brown, brownish green, black, dark blue, light blue, greyish light blue (turquoise), white and light blue (plication). Jewel varieties have dark blue, black, white and light blue colours (colour list is given in order of reduction of stone quality as jewel material on the basis of ESR data). Decorative pattern: homogeneous, massive with alternation of colour strips from black through dark blue to light blue; olive green or less often brown spherulites and veins on a black and dark blue background; plication figure as at charoite from contortion in folds, thin alternating dark blue, light blue and white (rarely cream-coloured) strips; and various combinations of the above mentioned figures. Hardness: as of obsidian, 5–5.5 on the Mohs scale. Glass lustre. Transparency: transparent in thin edges up to 2 mm in various shades of brown, brownish green colour. Conchoidal fracture. Density: 2.5–3.0 g/cm<sup>3</sup>, that is essentially higher than that of obsidian. Refractive index: 1.522–1.539, higher than that of obsidian, for which refraction index is about 1.48–1.51. Workability: because of its greater density, it is not as workable as obsidian; massive and plication varieties accept ideal polishing.

Tengizite is suitable for manufacturing of brooches, rings, bracelets, earrings and other jewelry. Tengizite is a pretty rare stone. As well as for charoite, only one deposit of tengizite is known all over the world. Moreover, each jewelry from tengizite due to the wide colour range and various graphic pattern of the stone is exclusive and therefore most attractive.