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Due to their unique characteristics such as excellent resistance to environmental effects and attractive decorative properties, granites has a special interest among natural stones. In recent years increasingly more efforts have been directed on machining of granites. Main driving factors for these efforts are the cost of machining process and the complex nature of the granites. In addition to the researches aiming at enhancing the operational conditions of the conventional processes such as circular sawing, the innovative methods and technologies have been experimented in granite machining. Among the innovative technologies developed recently, abrasive water jet (AWJ) cutting is being increasingly seen as a most promising machining method. AWJ cutting method has the ability to meet the required standards, while eliminating the adverse effects of the conventional methods. Some important advantages of this innovative method for mechanical machining of natural stones can be listed below:

1. Precise shape cutting can be achieved with a good surface finish;
2. AWJ cut kerf width is much smaller than that produced by traditional sawing technologies;
3. AWJ cutting systems can be easily integrated with existing CAD/CAM systems, thereby, greatly optimizing the shape cutting process;
4. The system produces no dust, thereby, significantly improving working conditions and benefiting the environment.

The performance of AWJ is controlled by a combination of many complex and interrelated factors, such as operating characteristics of the AWJ system and the material properties to be cut. Therefore, it is necessary to understand the cutting process and try to evaluate which properties affect the operation. Various researchers investigated the performance characteristics of AWJ systems [1-10].

Most research were focused on operational parameters such as stand-off distance, water pressure, abrasive content and traverse speed. The material characteristics have attracted interests in recent years. Recently, some researches on machining of granite investigated the textural properties.

Karakurt et al. [10] conducted an experimental study on the cut depth of three granites. In their study, the experimentation was conducted on the basis of the Taguchi approach. The results showed that the traverse speed is the most significant parameter affecting the

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