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Soft and porous building rocks in Apulian Monuments (Southern Italy)

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This paper attempts a comprehensive review of the main petrophysical and mechanical properties of calcarenite rocks used from time immemorial in Apulia (Southern Italy), with load-bearing and decorative functions, both for constructions of historic and architectonic interest, and in more basic buildings.

These seldom well-cemented rocks are soft and porous and show a reduced ability to maintain their characteristics of strength, appearance, and resistance to decay over a considerable period of time.

Even more than other sedimentary rocks, the physical and mechanical behaviour of calcarenites is strongly conditioned by depositional fabric and diagenetic processes.

The ready availability, good workability and aesthetic appeal together with their lightness and low values of thermal conductivity and diffusivity, give the calcarenites excellent insulation properties, and this explains their continuing success as building and ornamental stone, despite the strong competition of artificial materials that imitate their characteristics and technical properties.