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Inverse karstification processes in Dinaric karst area (Croatia)

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Inverse karstification modeling of rock mass transfer characterizes the dynamic processes affecting the function of karst systems and can be used to identify karst properties. More than 20 % of speleological features (caves and pits) in Dinaric karst area have genesis of inverse karstification. Afterwards the surface data get correlated with other exploration results in order to produce rock mass quality model. The modelling of subsurface and deeper zones in karst areas in Croatia is usually a difficult task because of a complex geology. The evaluation of rock mass quality in those zones is even more demanding mainly because of the specific weathering processes of carbonate rocks. Since karstification significantly changes engineering-geological properties of carbonate rocks, it is of vital importance to determine the degree of weathering in surface and subsurface zones. Engineering-geological properties of carbonate rocks in the surface zone, subsurface and deeper zones are compared and discussed in the paper. Facts and examples are taken from recent highway projects in Croatia. Today we built the first underground bridge in cave on one highway because big cave chamber were founded there and it was the only possibility.