

MODIFIED RELATION OF THE ROCK QUALITY DESIGNATION WITH NUMBER OF JOINT PER CUBIC METER VOLUME AND JOINT NUMBER ASSESSMENT OF ROCK MASS QUALITY

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Palmstrom (1982) linked RQD with J_v (joint/m³) of rockmass as $RQD = 115 - 3.3 J_v$. He proposed for the first time a method for rock outcrops. Palmstrom method of RQD was used for geotechnical surveys and problems of its limitation were felt. Authors tried to improve the applicability on higher J_v and suggested that a modified relation as below:

$$\log_{10} [RQD - (32/J_v - 1)] = 2.0 - 0.6645 \log_{10} J_v$$

It is applicable over range of $J_v = 21/11 \sum_{n=1}^{n=N} (1/S)$ where 'S' is average spacing in a sphere of 1m. diameter, Block size assessment is made by RQD/J_n in Barton's method (1974). Joint number (J_n) from number (n) of sets is related as below ;

$$2 J_n = 2^{n-1} + n^2 + n + 1$$

This gives nearly similar values used by Barton et. al. (1974).