

ERRATUM

## Erratum to: New equations for predicting the field penetration index of tunnel boring machines in fractured rock mass

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The original version of the article contained some errors in order of generated equations. To get rid of them, Table 4 and Fig. 15 should be taken account as herein.

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The online version of the original article can be found at <http://dx.doi.org/10.1007/s12517-016-2811-1>.

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**Table 4** Simple relationship between FPI and relevant parameters

Relevant parameters	Coefficients of correlation (r)	Type of relations	FPI (kN/cutter/mm/rev)
UCS (MPa)	0.24	Linear	$FPI = -0.2 \times UCS + 110$
BTS (MPa)	n/a (0.05)	Linear	$FPI = -1.2 \times BTS + 92.5$
BI (kN/mm)	0.50	Power	$FPI = 479 \times (BI)^{-0.51}$
Fs (meter)	0.52	Polynomial	$FPI = -7.23 \times (Fs)^2 + 30.3 \times (Fs) + 60.6$
Alpha (degree)	0.42	Polynomial	$FPI = 0.012 \times (\alpha)^2 - 1.23 \times (\alpha) + 107$
Fn (kNf)	0.64	Power	$FPI = 0.042 \times (Fn)^{1.31}$

**Fig. 15** Relationship between obtained FPI and predicted FPI

