

Permissible Pull-forces for Laying

When laying power cables by machine, particular attention must be paid to the permissible tensile forces:

Pulling method	Constuction of cables	Tensile force
pulling head on the conductor	all types of cables	$F = A \cdot 50 \text{ N/mm}^2$ (Cable with Cu- conductor) $F = A \cdot 30 \text{ N/mm}^2$ (Cable with Al- conductor)
with cable stocking	all wire-armoured cables (e.g. NYFGY, NAYFGY ect.)	$F = K \cdot D^2$ (K=9 N/mm ²)
	cables with metal sheath, without tension-proof armour (e.g. NKBA, NYKY, NAKLEY ect.)	$F = K \cdot D^2$ (single-sheathed cable K=3 N/mm ²)
	(e.g. NEKEBA, NAEKEBA ect.)	(3-core single lead sheath cable K=1 N/mm ²)
	plastic cables without metal sheath, plastic cables without armour (e.g. NYY, NYSY, NYSEY, NYCWY, NA2XS2Y ect.)	$F = A \cdot 50 \text{ N/mm}^2$ (Cu-conductor) $F = A \cdot 30 \text{ N/mm}^2$ (aluminium conductor)

If three single-core cables are laid simultaneously with a common cable stocking, the same max. pulling forces as they are applicable for single-core cables, are valid. For 3 laid single-core cables the calculation of the permissible pulling forces is based on 3 cables, whereas it is based on 2 cables if the 3 single-core cable are not laid-up.

A = total conductor cross-section in mm² (without screen and concentric protective conductor)

D = outside diameter of cable in mm.