

Besteckrechnung

Name

Mittelbreite

vergrößerte Breite

Erste Aufgabe, Zielort berechnen

Ausgangsbreite φ_A	→ X	±	°	---	---	---	'
Ausgangslänge λ_A	→ Y	±	°	---	---	---	'
KüG α_{voll}	→ A			---	---	°	
DüG d_{lox}	→ D			---	---	sm	

$$\varphi_B = \varphi_A + \frac{d \cos \alpha}{60}$$

$$\varphi_B = X + \frac{D \cos A}{60}$$

φ_B in Gdez	±	°	---	---	---	---	'
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φ_B Zielbreite in G-Mdez	N	S	°	---	---	---	'
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$$\lambda_B = \lambda_A + \frac{d \sin \alpha}{60 \cos(\varphi_A + \frac{d \cos \alpha}{120})}$$

$$\lambda_B = Y + \frac{D \sin A}{60 \cos(X + \frac{D \cos A}{120})}$$

λ_B in Gdez	±	°	---	---	---	---	'
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λ_B Ziellänge in G-Mdez	E	W	°	---	---	---	'
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Zweite Aufgabe, KüG, DüG berechnen

Ausgangsbreite φ_A	→ X	±	°	---	---	---	'
Ausgangslänge λ_A	→ Y	±	°	---	---	---	'
Zielbreite φ_B	→ E	±	°	---	---	---	'
Ziellänge λ_B	→ F	±	°	---	---	---	'

$$\alpha_q = \arctan \left[\frac{(\lambda_B - \lambda_A) \cos(\frac{\varphi_B + \varphi_A}{2})}{\varphi_B - \varphi_A} \right]$$

$$\alpha_q = \arctan \left[\frac{(F - Y) \cos(\frac{E + X}{2})}{E - X} \right]$$

α_q	→ A	±	°	---	---	---	'
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N α_q E S α_q W	N	S	°	---	---	---	'
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$\alpha_{\text{voll}} = \text{KüG}$	---	---	°	---	---	---	'
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$$d_{\text{lox}} = 60 \frac{\varphi_B - \varphi_A}{\cos \alpha}$$

$$d_{\text{lox}} = 60 \frac{E - X}{\cos A}$$

$d_{\text{lox}} = \text{DüG}$	---	---	sm	---	---	---	'
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Zweite Aufgabe, KüG, DüG berechnen

Ausgangsbreite φ_A	→ X	±	°	---	---	---	'
Ausgangslänge λ_A	→ Y	±	°	---	---	---	'
Zielbreite φ_B	→ E	±	°	---	---	---	'
Ziellänge λ_B	→ F	±	°	---	---	---	'

$$\Phi(\varphi) = \frac{10800}{\pi} \ln \left[\tan \left(45^\circ + \frac{\varphi}{2} \right) \right]$$

Speicher M löschen: 0

$$\Phi_B = 3437,75 \ln \left[\tan \left(45^\circ + \frac{E}{2} \right) \right] \quad \text{M+}$$

$$\Phi_A = 3437,75 \ln \left[\tan \left(45^\circ + \frac{X}{2} \right) \right] \quad \text{M-}$$

$$\alpha_q = \arctan \left(60 \frac{\lambda_B - \lambda_A}{\Phi_B - \Phi_A} \right)$$

$$\alpha_q = \arctan \left(60 \frac{F - Y}{M} \right)$$

α_q	→ A	±	°	---	---	---	'
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N α_q E S α_q W	N	S	°	---	---	---	'
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$\alpha_{\text{voll}} = \text{KüG}$	---	---	°	---	---	---	'
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$$d_{\text{lox}} = 60 \frac{\varphi_B - \varphi_A}{\cos \alpha}$$

$$d_{\text{lox}} = 60 \frac{E - X}{\cos A}$$

$d_{\text{lox}} = \text{DüG}$	---	---	sm	---	---	---	'
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Beispiele zur Umrechnung
des viertelkreisigen Kurses $|\alpha_q|$
in den vollkreisigen Kurs α_{voll}

N α_q E:	$\alpha_{\text{voll}} = \alpha_q $
N α_q W:	$\alpha_{\text{voll}} = 360^\circ - \alpha_q $
S α_q W:	$\alpha_{\text{voll}} = 180^\circ + \alpha_q $
S α_q E:	$\alpha_{\text{voll}} = 180^\circ - \alpha_q $

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