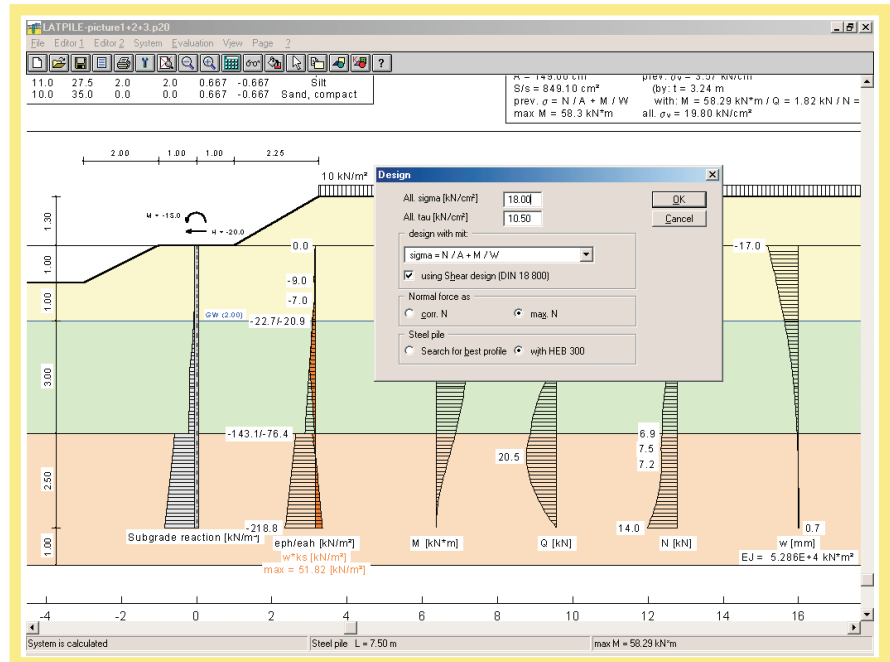
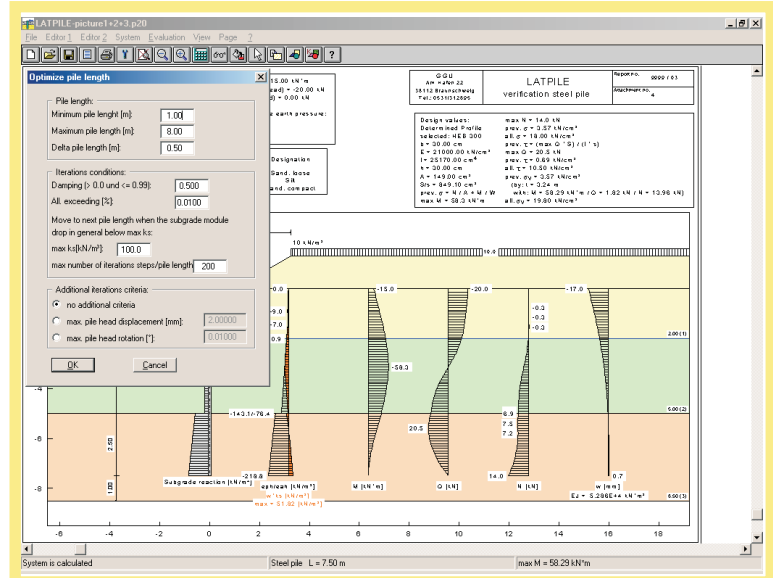


**Description**

**GGU-LATPILE** - calculation of elastically bedded piles

The program allows the calculation of elastically bedded piles. To do the calculations the program uses the matrix method. For the calculations a linearly variable module of subgrade reaction can be taken into consideration.

As data input is in accordance with Windows conventions it can be learnt almost without the use of a handbook. The graphic output supports the true-type fonts provided by Windows, so that you can be sure of an excellent layout. Colour output and bitmap graphics are supported.



**PROGRAM GGU-LATPILE  
GEOTECHNICAL COMPUTATION**

GGU  
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38112 Braunschweig  
Tel: 0531/312895

Report no. 9999 / 03  
Attachment no. 4

Steel pile  
HEB 300  
Design criteria:  
No earth pressure redistribution  
Active earth pressure according to: DIN 4085  
Passive earth pressure according to: Streck only classic  
Pile length = 7.50 m  
Pile width = 0.40 m

Moment (Pile head) = -15.00 kN\*m  
Horizontal force (Pile head) = -20.00 kN  
Vertical force (Pile head) = 0.00 kN  
 $\eta$  (passive) = 2.00  
Space effect for passive earth pressure: only classic

Soil	$\gamma$ [kN/m <sup>3</sup> ]	$\gamma'$ [kN/m <sup>3</sup> ]	$\phi$ [°]	c(a) [kN/m <sup>2</sup> ]	c(p) [kN/m <sup>2</sup> ]	$\delta(\phi)$ aktiv	$\delta(\phi)$ passiv	Designation
18.0	9.0	30.0	0.0	0.0	0.667	-0.667	-0.667	Sand, loose
20.0	11.0	27.5	2.0	2.0	0.667	-0.667	-0.667	Silt
19.0	10.0	35.0	0.0	0.0	0.667	-0.667	-0.667	Sand, compact

Design values:  
Determined Profile  
selected: HEB 300  
b = 30.00 cm  
E = 21000.00 kN/cm<sup>2</sup>  
I = 25170.00 cm<sup>4</sup>  
h = 30.00 cm  
A = 149.00 cm<sup>2</sup>  
S/s = 849.10 cm<sup>3</sup>  
prev.  $\sigma = N / A + M / W$   
max M = 58.3 kN\*m

max N = 14.0 kN  
prev.  $\sigma = 3.57$  kN/cm<sup>2</sup>  
all.  $\sigma = 18.00$  kN/cm<sup>2</sup>  
prev.  $\tau = (\max Q \cdot S) / (I \cdot s)$   
max Q = 20.5 kN  
prev.  $\tau = 0.69$  kN/cm<sup>2</sup>  
all.  $\tau = 10.50$  kN/cm<sup>2</sup>  
prev.  $\sigma_v = 3.57$  kN/cm<sup>2</sup>  
(by:  $t = 3.24$  m  
with:  $M = 58.29$  kN\*m /  $Q = 1.82$  kN /  $N = 13.96$  kN)  
all.  $\sigma_v = 19.80$  kN/cm<sup>2</sup>

LATPILE  
verification steel pile

