

Werk : Woonzorggebouw SDW Zuidwal Steenbergen.

Werknummer : 15-1017

Behoort bij beschikking	
d.d.	29-06-2016
nr.(s)	ZK16002016
Juridisch beleidsmedewerker Publiekszaken / vergunningen	
	

Opdrachtgever : Aan de Stegge Roosendaal
Vijfhuizenberg 46
Roosendaal

Datum : 3 mei 2016

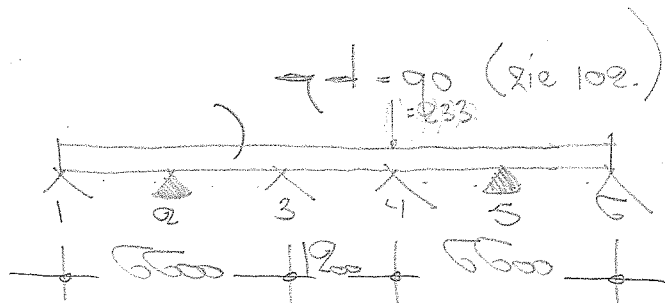
Onderdeel : Statische berekening fundering .

Constructeur :

Fundering:

Zie funderadvies : *ponius* : GA150432
28-4-2016

Balk in as 1:



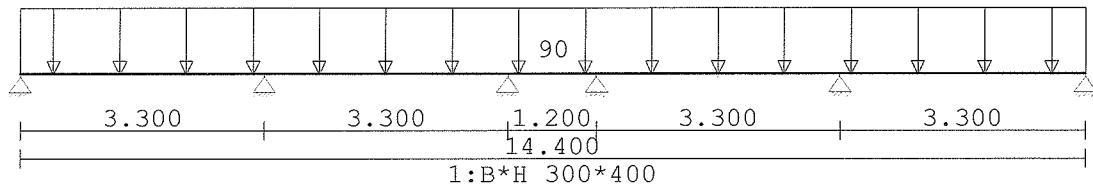
Zie C 103

103

Project.....: -
 Onderdeel.....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies.....: kN/m/rad
 Datum.....: 28/04/2016

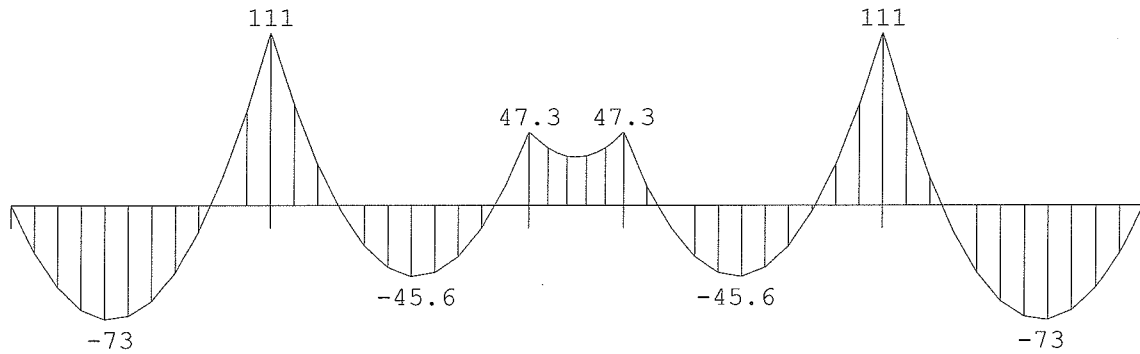
VELDBELASTINGEN

Ligger:1 B.G:1



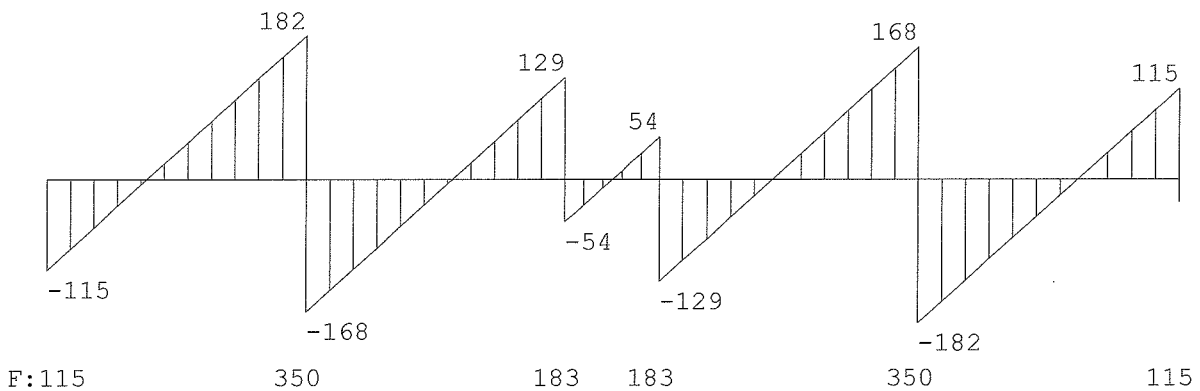
MOMENTEN

Ligger:1 B.G:1

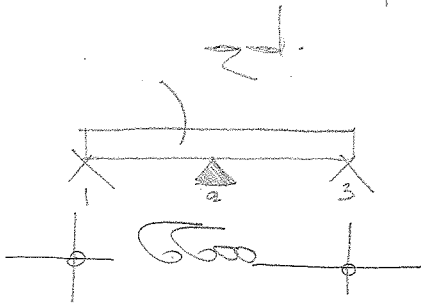


DWARSKRACHTEN

Ligger:1 B.G:1



Balk in os q



$$R_{d1} \cdot R_{d3} = 111 \text{ kN}$$

$$R_{d2} = 371 \text{ kN}$$

$$q_p = \text{vloeren} = 0,5 (4,4 + 7,50 + 7,50 + 6,5)$$

$$\text{zuivel} = 9,5 = 5,0$$

$$\text{balk} =$$

$$= 13,0 \text{ kN/m}^2$$

$$= 47,5$$

$$= \frac{6,0}{66,5} \text{ kN/m}^2$$

$$q_d = 1,35 \cdot 50,5$$

$$= 90,0 \text{ kN/m}^2$$

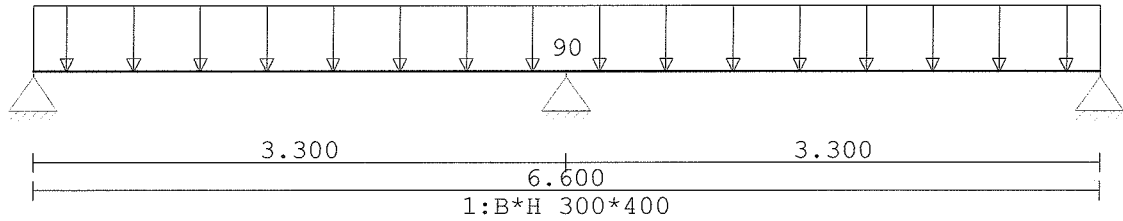
Zie C102

Project.....: -
Onderdeel.....:
Constructeur.: karel
Opdrachtgever:
Dimensies.....: kN/m/rad
Datum.....: 28/04/2016

102

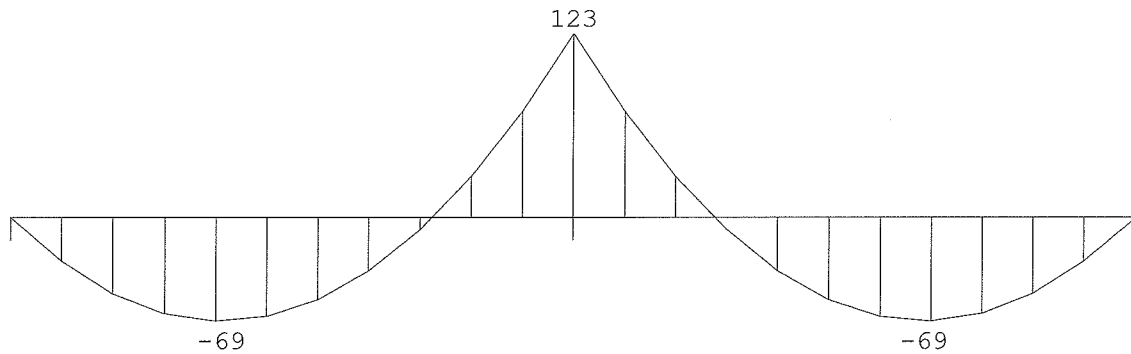
VELDBELASTINGEN

Ligger:1 B.G:1



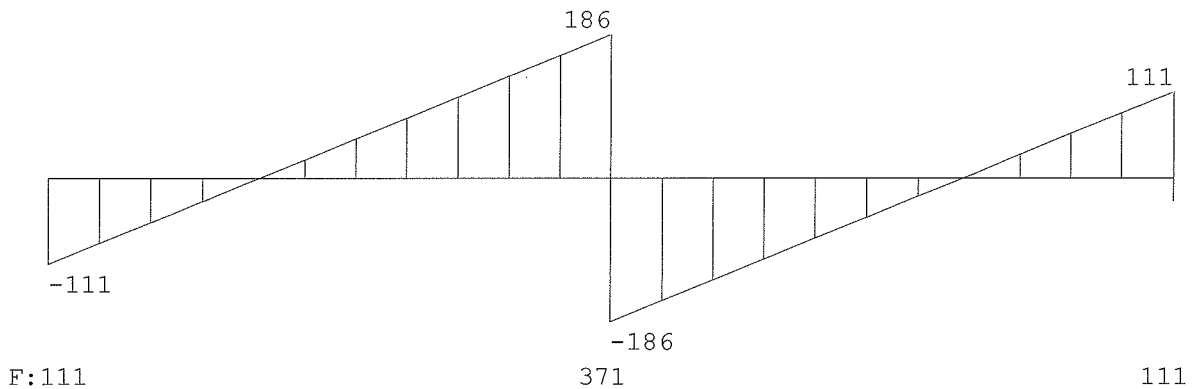
MOMENTEN

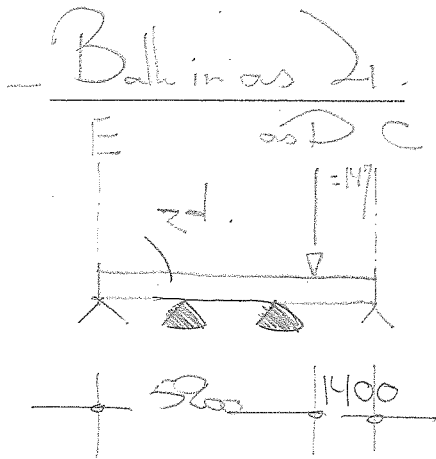
Ligger:1 B.G:1



DWARSKRACHTEN

Ligger:1 B.G:1





\rightarrow zie 102

∇ zie C 104

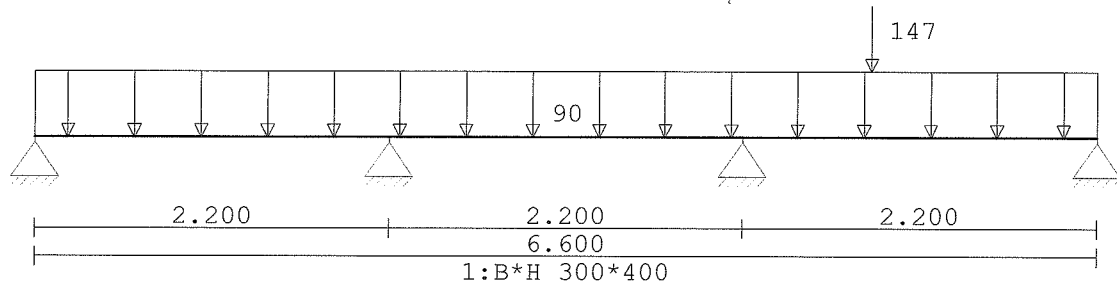
= 90,0 kNm

Project.....: -
 Onderdeel....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies....: kN/m/rad
 Datum.....: 28/04/2016

164

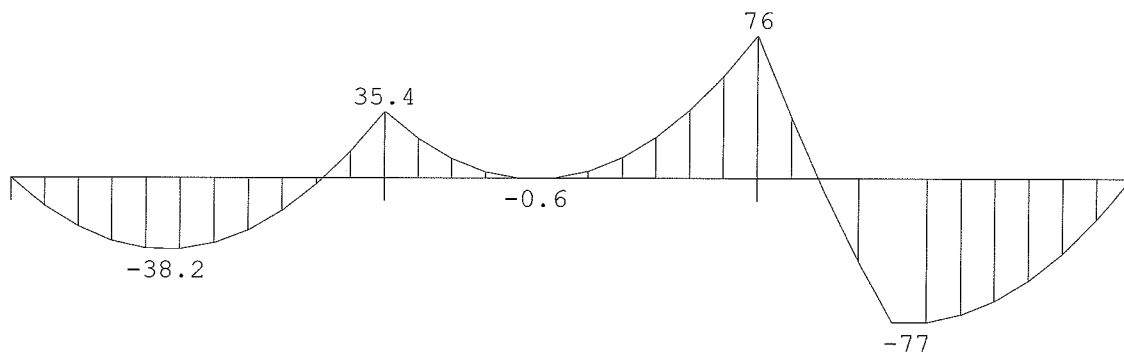
VELDBELASTINGEN

Ligger:1 B.G:1



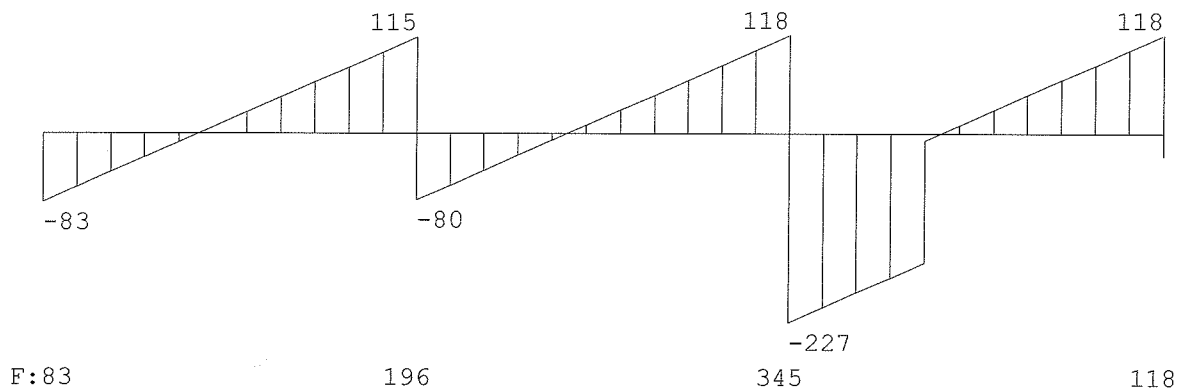
MOMENTEN

Ligger:1 B.G:1

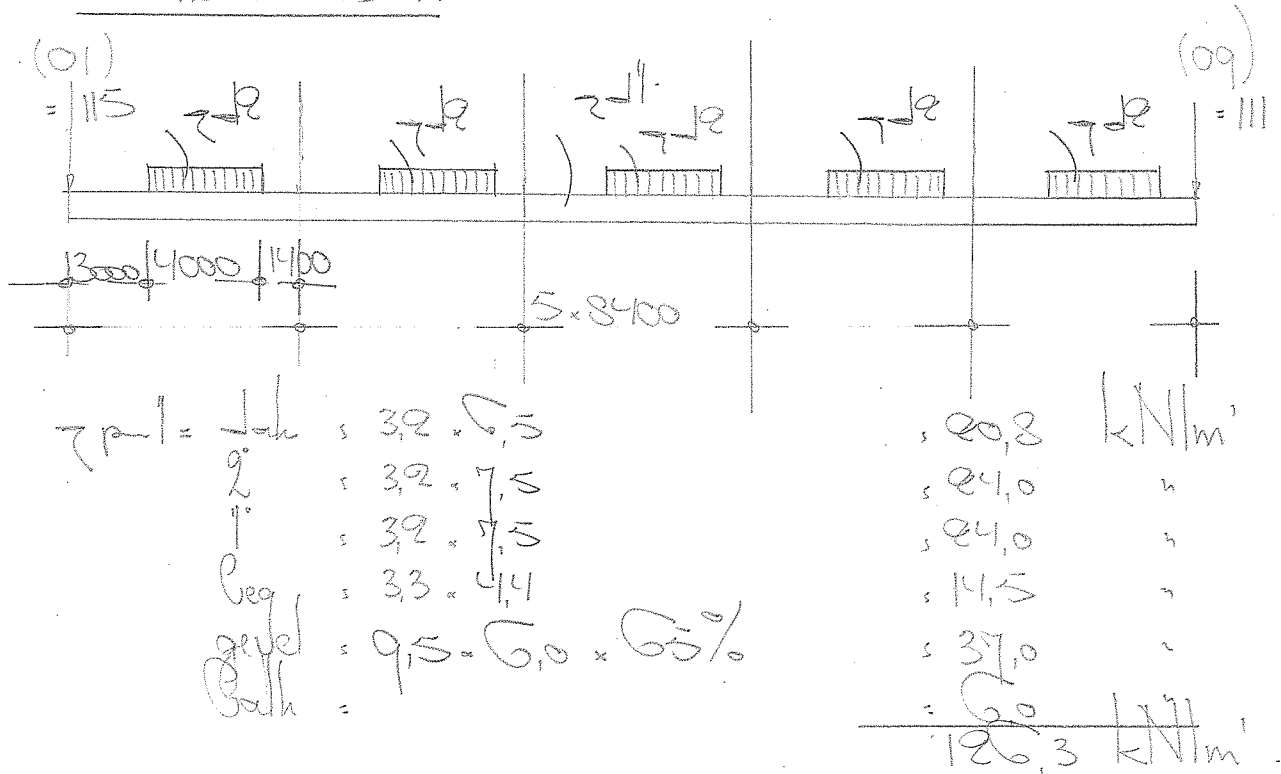


DWARSKRACHTEN

Ligger:1 B.G:1



Balk in as A:



m.g. $\tau_{11} = 1,35 \times 126,3 + 1,5 \times 3,2 \times 9,55 \times 1,2 = 185,1 \text{ kN/m}$

$\tau_{11} = 1,2 \times 126,3 + 1,5 \times 3,2 \times 9,55 \times 2,4 = 180,9 \text{ kN/m}$

$\tau_{12} = 1,8 \times 11,85 \text{ (zie q)} \times 2 = 42,7 \text{ kN/m}$

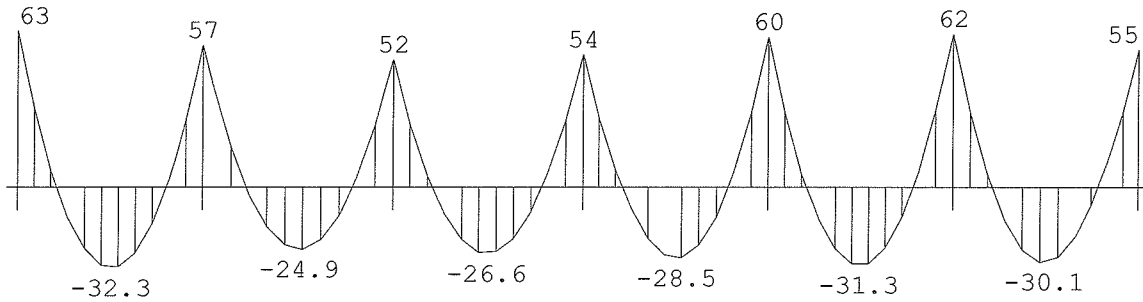
zie C 105

105²

MOMENTEN

Ligger:1 B.G:1

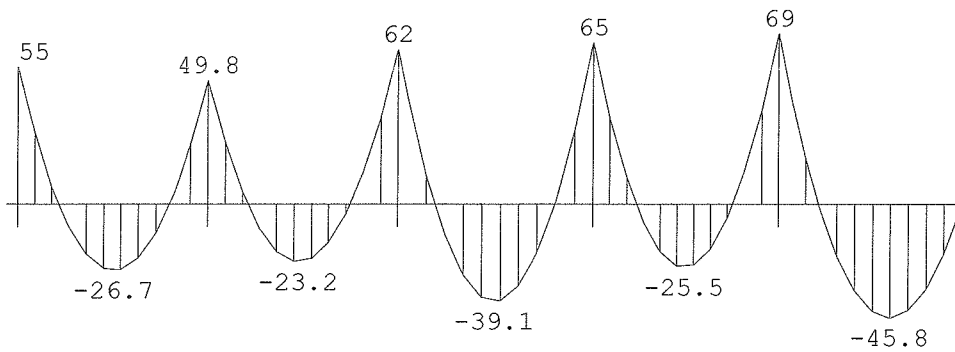
Velden: 13 t/m 18



MOMENTEN

Ligger:1 B.G:1

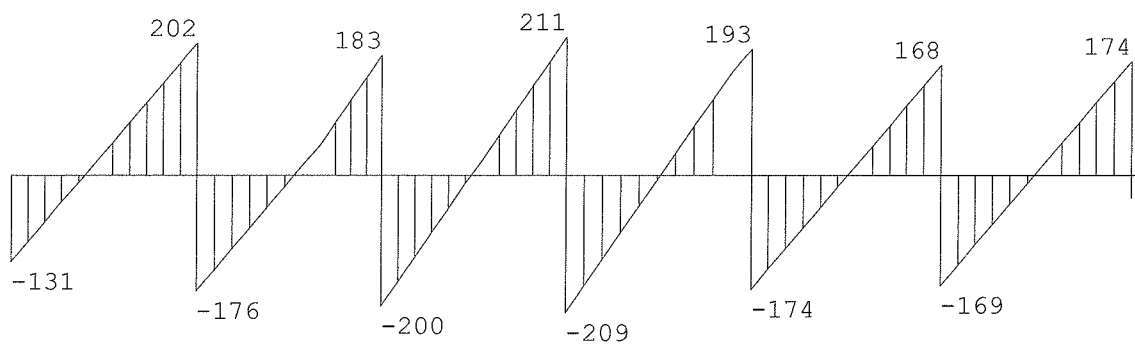
Velden: 19 t/m 23



DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 1 t/m 6



F: 246 377 383 420 367 337 357

C 105

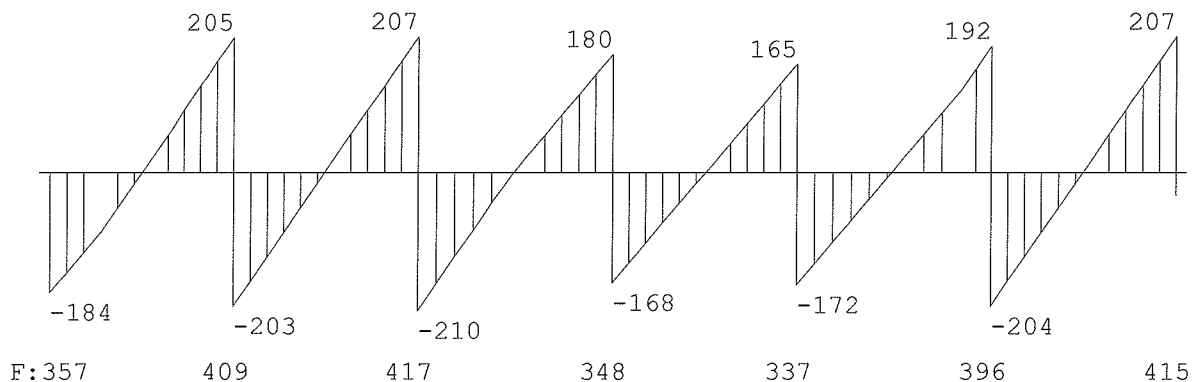
Project.....: -

Onderdeel.....:

DWARSKRACHTEN

Ligger:1 B.G:1

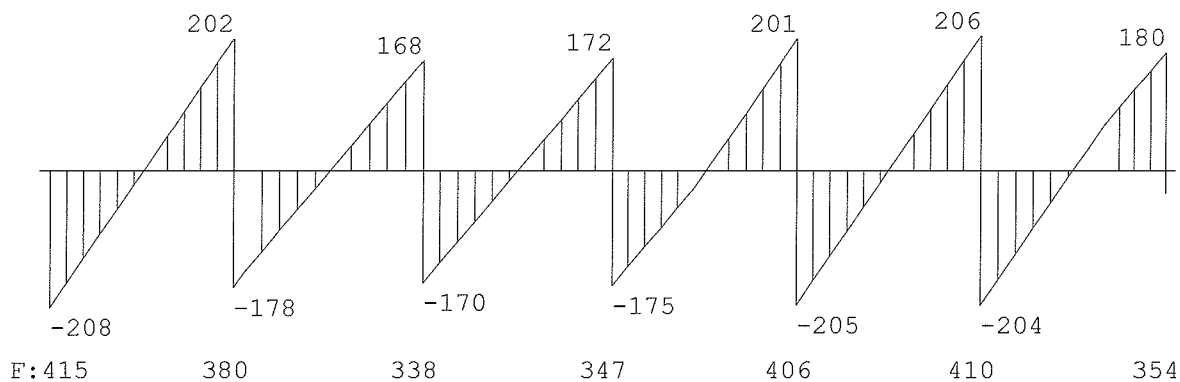
Velden: 7 t/m 12



DWARSKRACHTEN

Ligger:1 B.G:1

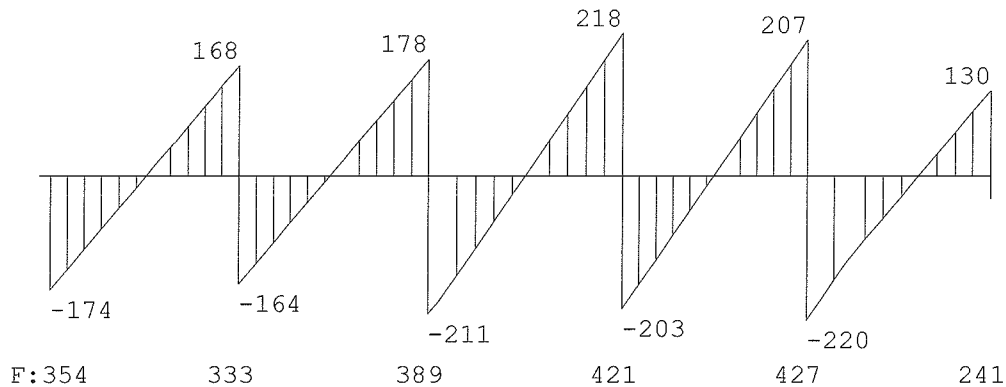
Velden: 13 t/m 18



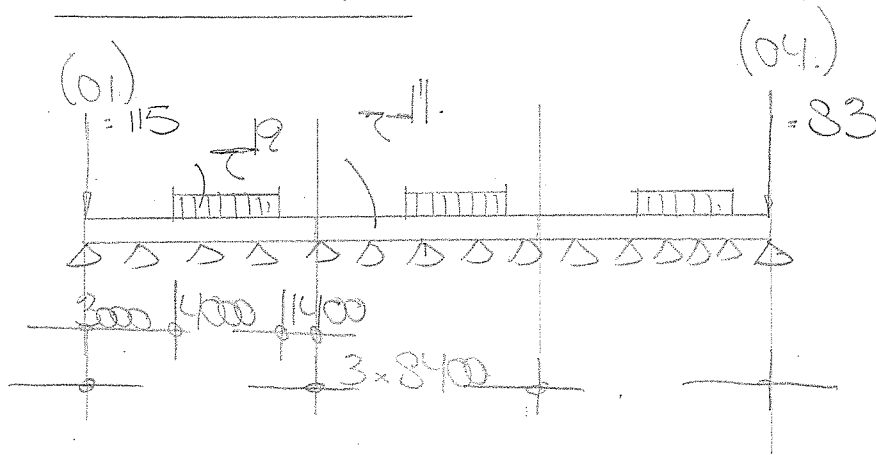
DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 19 t/m 23



Balk inas E



$\tau_{11} = \text{zie los.}$

$= 185,1 \text{ kN/m}^2$

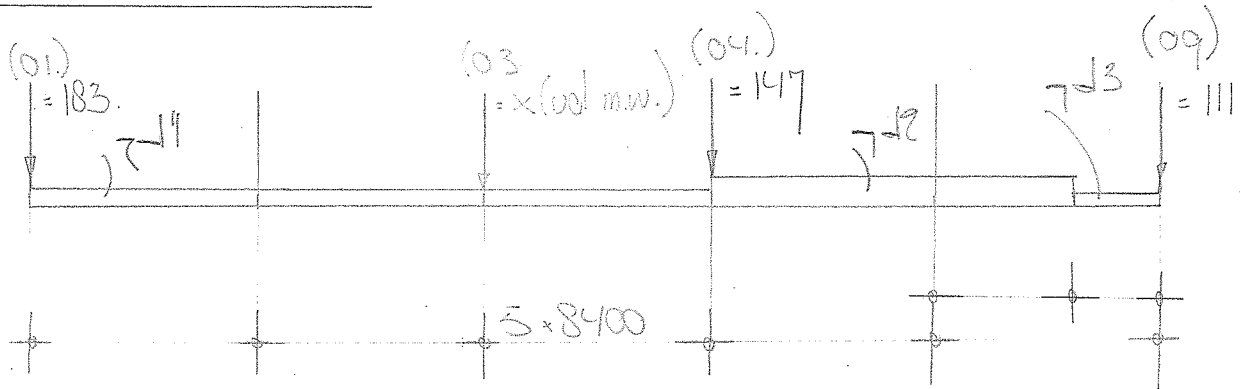
$\tau_{12} = \text{zie los.}$

$= 49,7 \text{ kN/m}^2$

Paal h.o.h. 1,8 m. $\Rightarrow \frac{3 \cdot 8400}{1800} = 14 \Rightarrow 15 \text{ paal.}$

Zie ook A

Balk in as B



$\tau_{per 1} =$	dak	$= 4,0 \times 6,5$	$= 26$	kN/m^1
	2°	$= 4,0 \times 7,5$	$= 30$	"
	1°	$= 4,0 \times 7,5$	$= 30$	"
	beg	$= 4,1 \times 4,4$	$= 18$	"
	m.w.	$= 9,0 \times 3,0$	$= 27,0$	"
	balk		$= 2,0$	"
			<hr/>	
			137,0	kN/m^1

$$\tau_{11} = 1,35 \cdot 137 + 1,5 \cdot 4,0 \times 9,55 = 1,2 = 203,3 \text{ kN/m}^1$$

$$\tau_{12} = 203,3 \cdot 1,1 = 224,0 \text{ kN/m}^1$$

$\tau_{per 3} =$	dak	$= 2,0 \times 6,5$	$= 13,0$	kN/m^1
	2°	$= 2,0 \times 7,5$	$= 15,0$	"
	1°	$= 2,0 \times 7,5$	$= 15,0$	"
	beg	$= 2,0 \times 4,4$	$= 8,8$	"
	gevel	$= 9,5 \times 5,0$	$= 47,5$	"
	balk		$= 2,0$	"
			<hr/>	
			105,3	kN/m^1

$$\tau_{13} = 1,35 \cdot 105,3 + 1,5 \cdot 9,0 \times 9,55 = 1,2 = 151,3 \text{ kN/m}^1$$

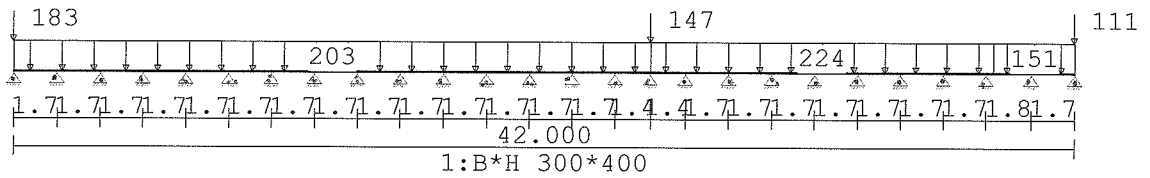
Zie C 107

Project.....: -
 Onderdeel.....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies.....: kN/m/rad
 Datum.....: 29/04/2016

C 107¹

VELDBELASTINGEN

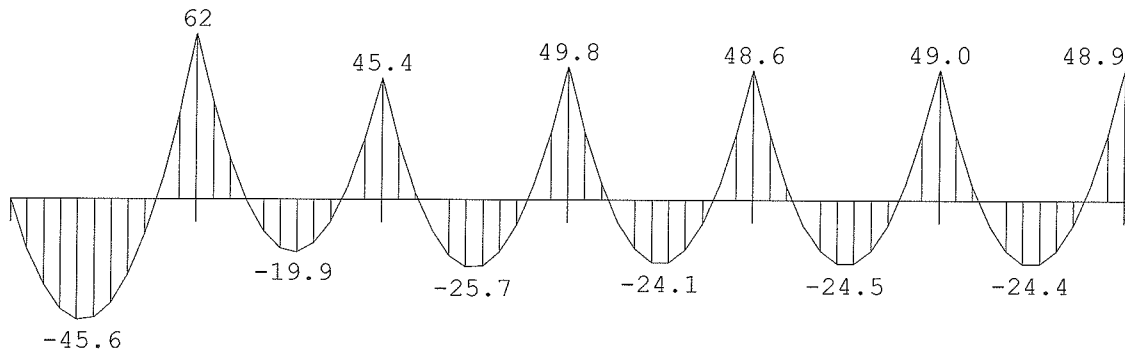
Ligger:1 B.G:1



MOMENTEN

Ligger:1 B.G:1

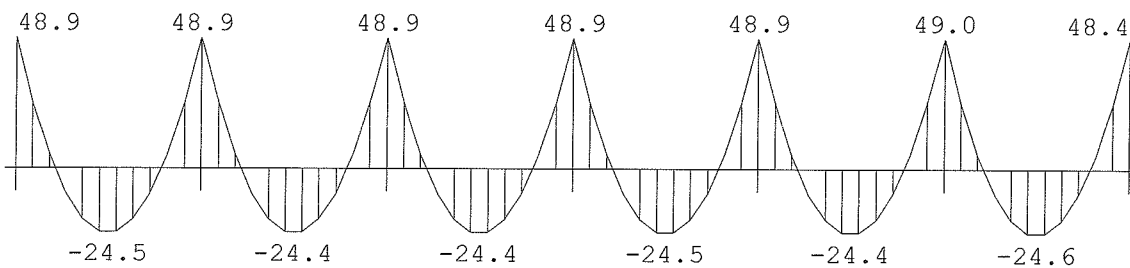
Velden: 1 t/m 6



MOMENTEN

Ligger:1 B.G:1

Velden: 7 t/m 12



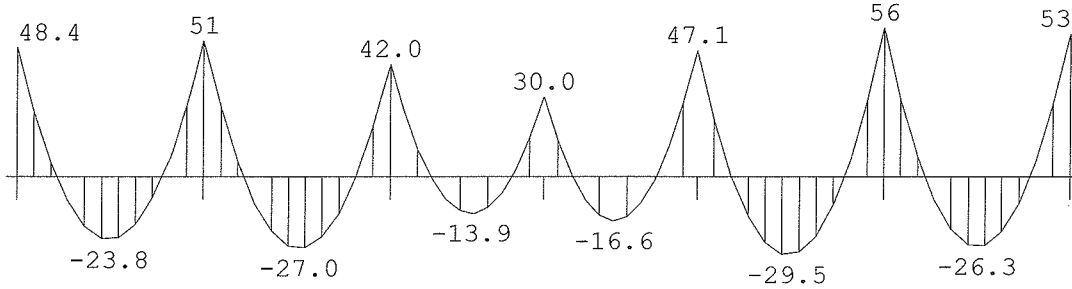
Project.....: -
Onderdeel.....:

C 107

MOMENTEN

Ligger:1 B.G:1

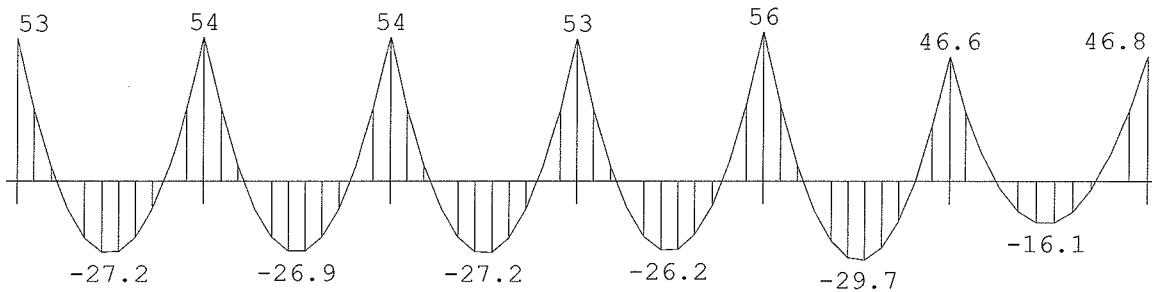
Velden: 13 t/m 18



MOMENTEN

Ligger:1 B.G:1

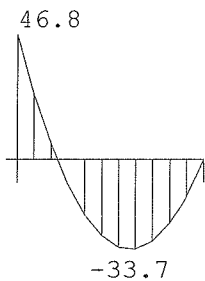
Velden: 19 t/m 24



MOMENTEN

Ligger:1 B.G:1

Velden: 25 t/m 25



Project.....: -

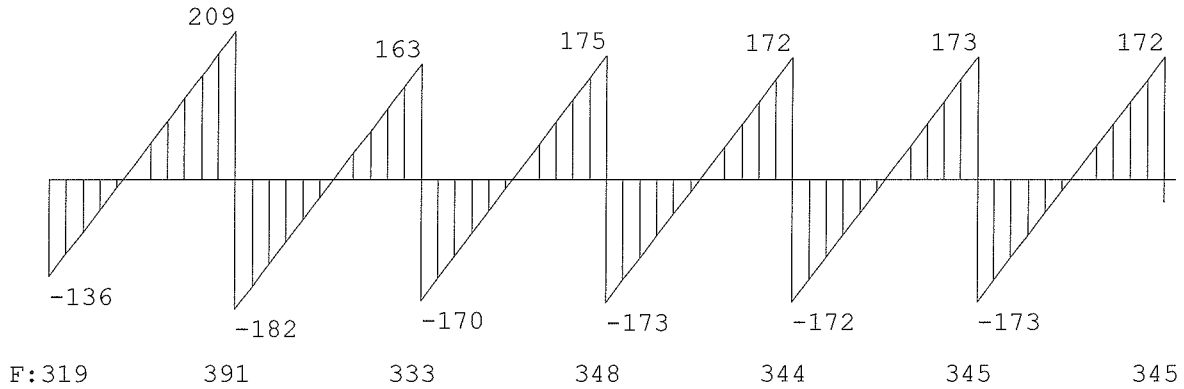
Onderdeel.....:

C 107³

DWARSKRACHTEN

Ligger:1 B.G:1

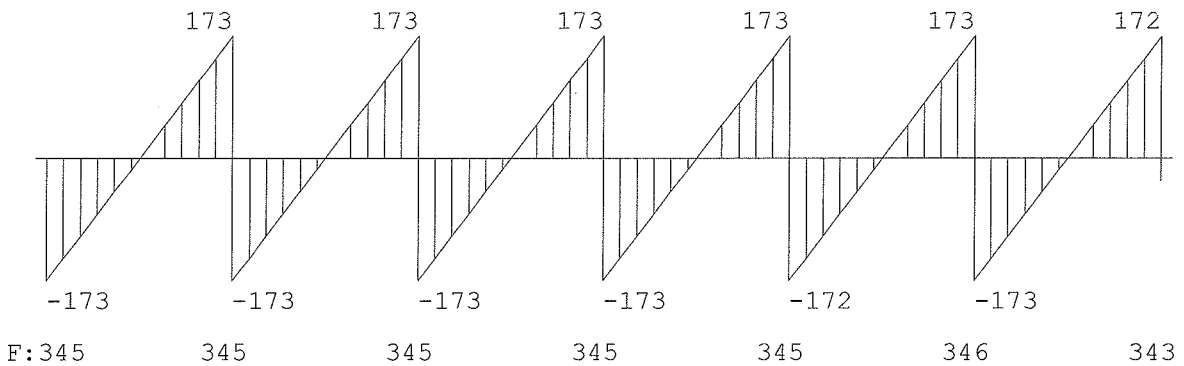
Velden: 1 t/m 6



DWARSKRACHTEN

Ligger:1 B.G:1

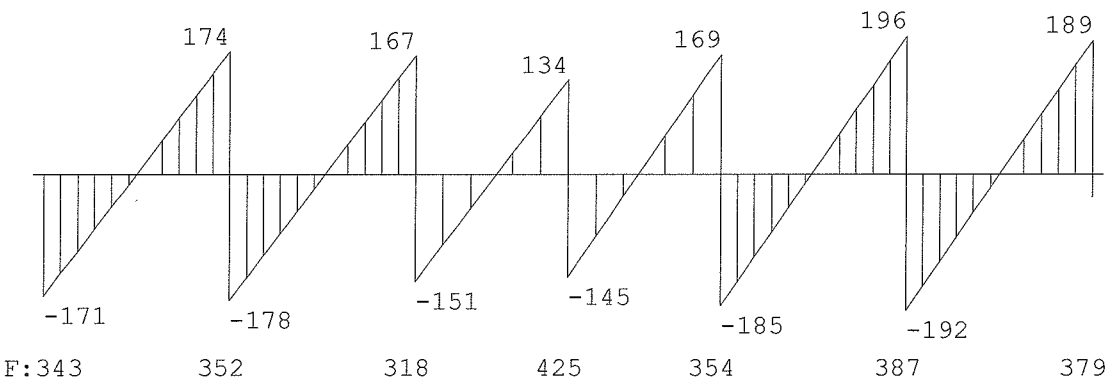
Velden: 7 t/m 12



DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 13 t/m 18



Project.....: -

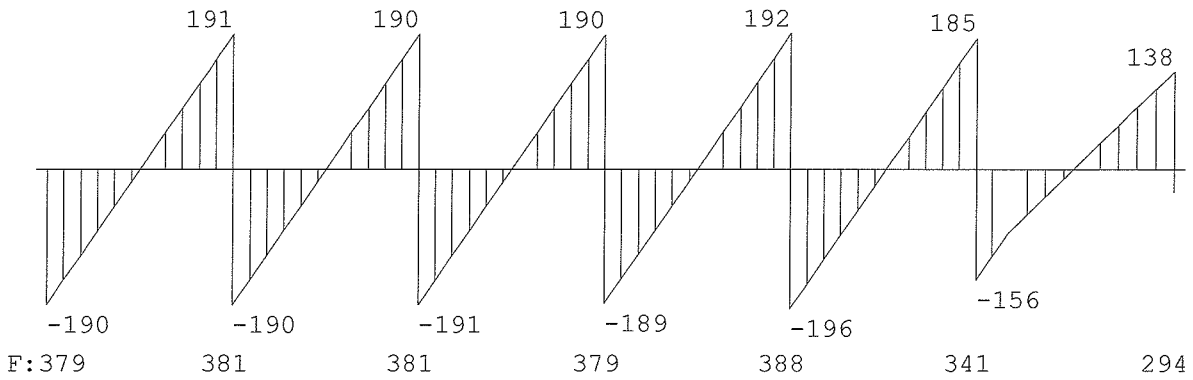
Onderdeel.....:

C 107⁴

DWARSKRACHTEN

Ligger:1 B.G:1

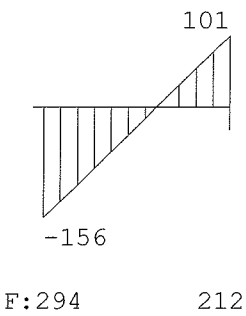
Velden: 19 t/m 24



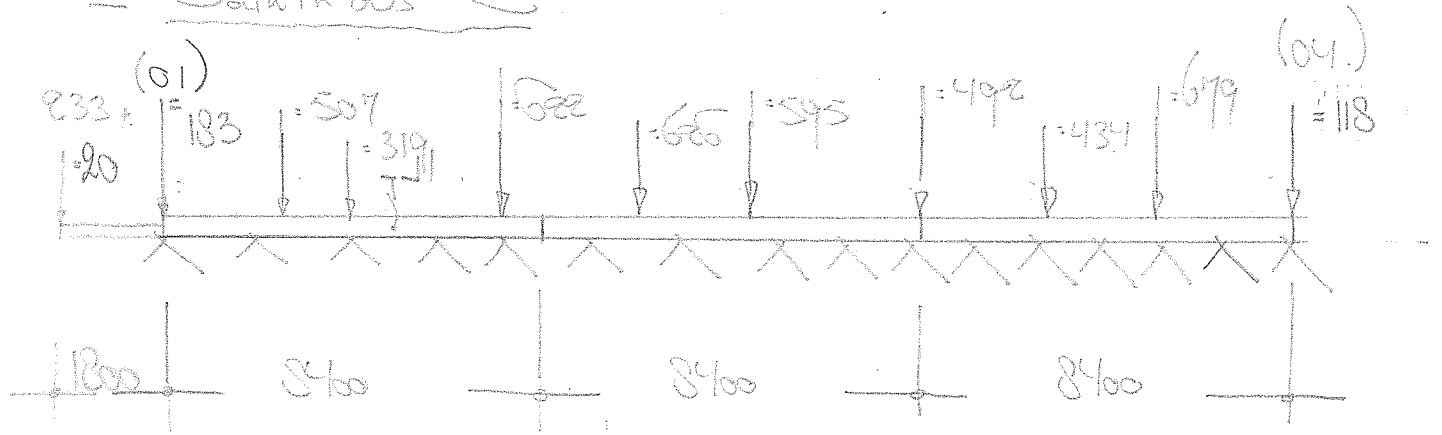
DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 25 t/m 25



Balkinas C



$$T = \frac{G_{\text{balk}}}{\text{Lengte}} = 4,1 = 4,1$$

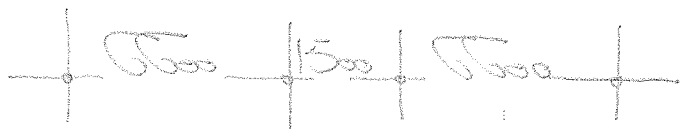
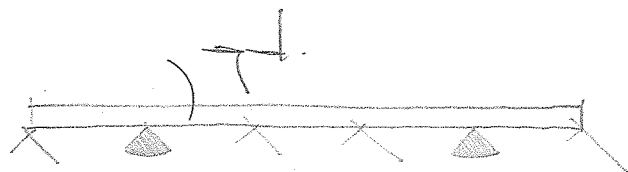
$$\begin{aligned} & \cdot 18,0 \text{ kNm} \\ & \cdot 6,0 \text{ " " " " } \\ \hline & 24,0 \text{ kNm} \end{aligned}$$

$$T = 1,35 \cdot 24,0 + 1,5 \cdot 4,1 \cdot 3,3 \cdot 0,4$$

$$= 40,6 \text{ kNm}$$

$$P_{\text{al h.o.h.}} = 1680 \text{ mm} \Rightarrow \frac{3 \cdot 8400}{1680} = 15 \Rightarrow 15 \text{ pal}$$

Balk in as L



$$\begin{aligned} \gamma_p &= \text{vloeren} = 9,5 (4,4 + 7,5 + 6,5) \\ &\quad \text{gevel} = 6,5 \times 4,4 \\ &\quad \text{balk} = \end{aligned}$$

$$\begin{aligned} &= 9,5 \quad \text{kNm} \\ &= 28,6 \quad \text{"} \\ &= 6,0 \quad \text{"} \\ \hline &43,8 \quad \text{kNm} \end{aligned}$$

$$\gamma_d = 1,35 \cdot 43,8$$

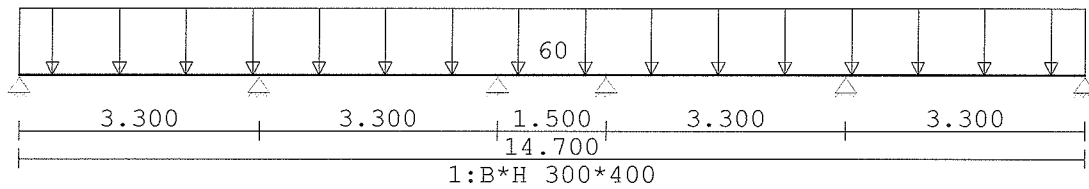
$$= 59,0 \quad \text{kNm}$$

Project.....: -
 Onderdeel.....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies.....: kN/m/rad
 Datum.....: 29/04/2016

C 109

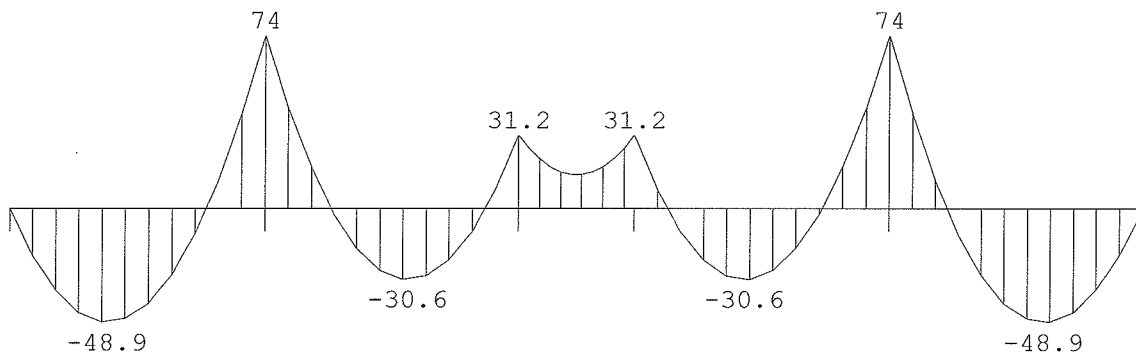
VELDBELASTINGEN

Ligger:1 B.G:1



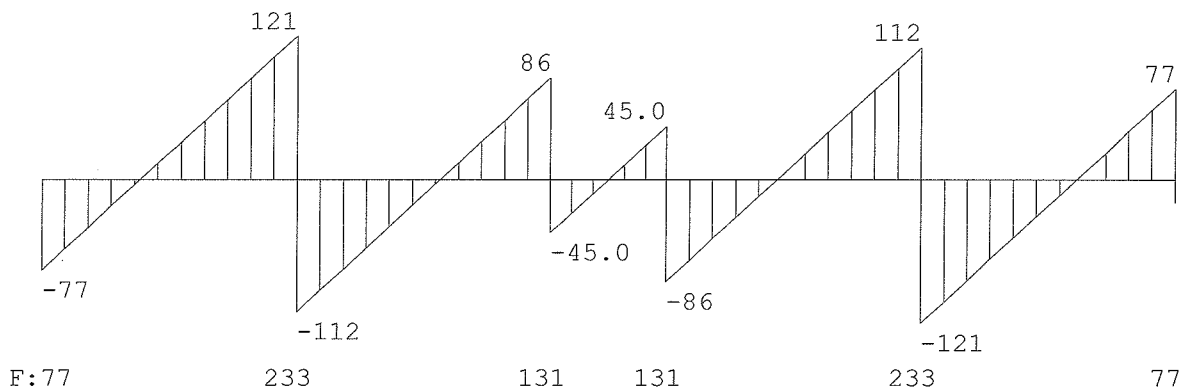
MOMENTEN

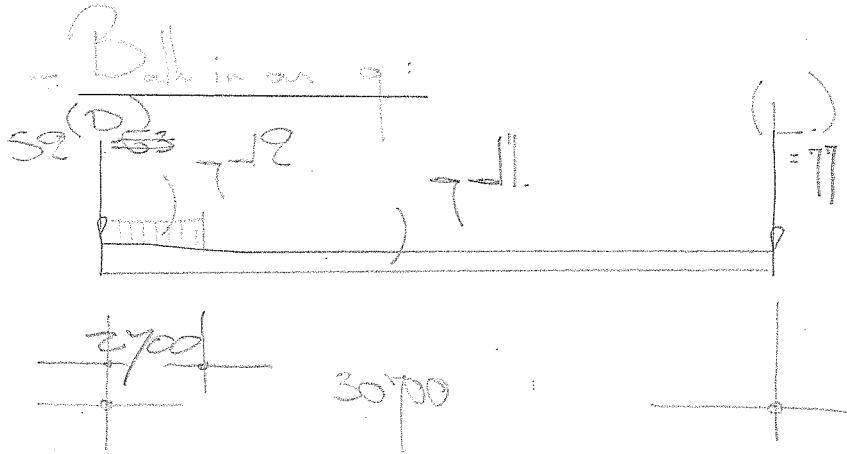
Ligger:1 B.G:1



DWARSKRACHTEN

Ligger:1 B.G:1





$\tau_{perl} =$

Jak	$3,2 \cdot 6,5$
T	$3,2 \cdot 7,5$
Geq	$3,3 \cdot 4,4$
gevel	$6,5 \cdot 5 = 55\%$
Balk	

$= 20,8$	kN/m^2
$= 24,0$	"
$= 14,5$	"
$= 21,1$	"
$= 6,0$	"
$\frac{6,0}{86,4}$	kN/m^2

$$\tau_{II} = 1,35 \cdot 86,4 + 1,5 \cdot 3,2 \cdot 0,55 = 0,8$$

$$= 126,4 \text{ kN/m}^2$$

$$\tau_{R} = 15,0 \cdot 1,35 / 2$$

$$= 10,1 \text{ kN/m}^2$$

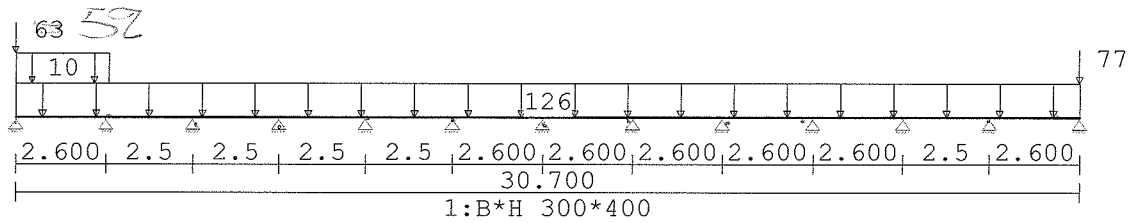
Zie C 110

Project.....: -
 Onderdeel.....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies.....: kN/m/rad
 Datum.....: 29/04/2016

C 110¹

VELDBELASTINGEN

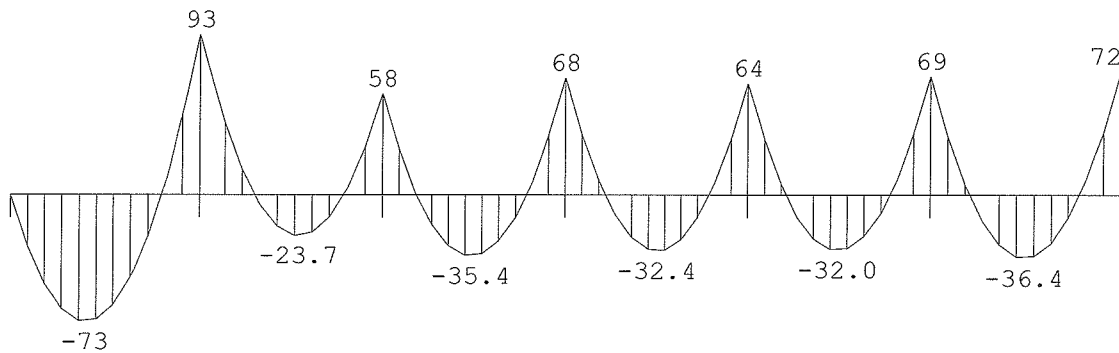
Ligger:1 B.G:1



MOMENTEN

Ligger:1 B.G:1

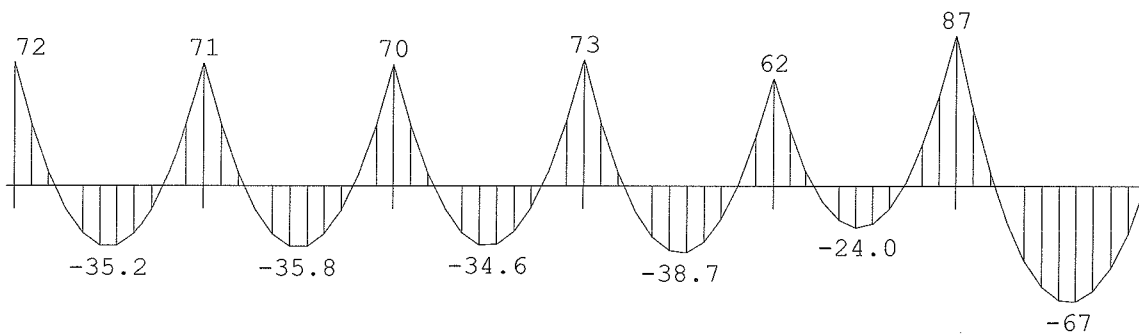
Velden: 1 t/m 6



MOMENTEN

Ligger:1 B.G:1

Velden: 7 t/m 12



Project.....: -

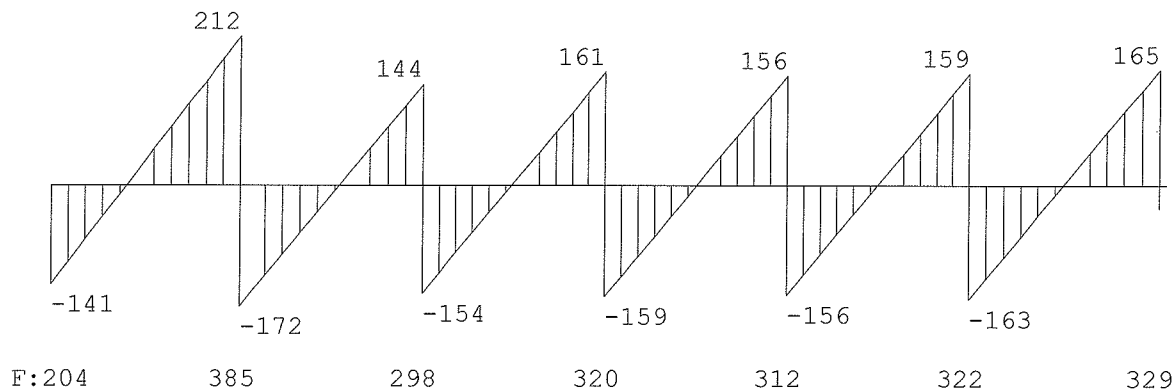
Onderdeel.....:

110²

DWARSKRACHTEN

Ligger:1 B.G:1

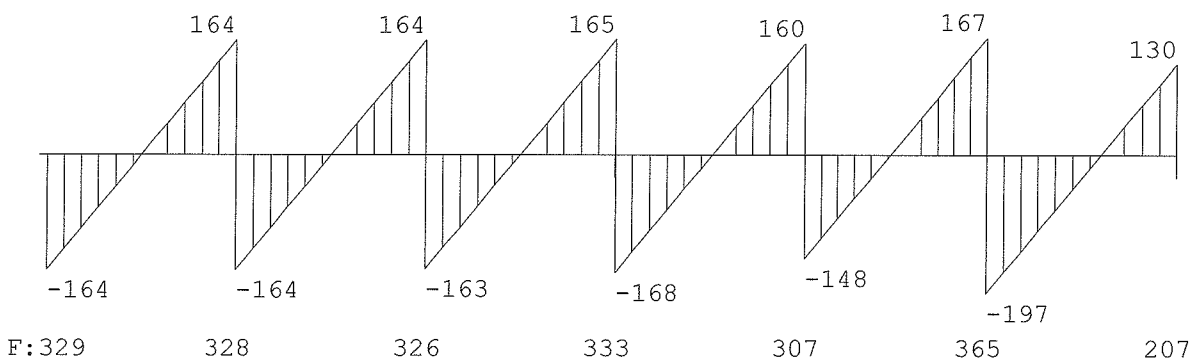
Velden: 1 t/m 6



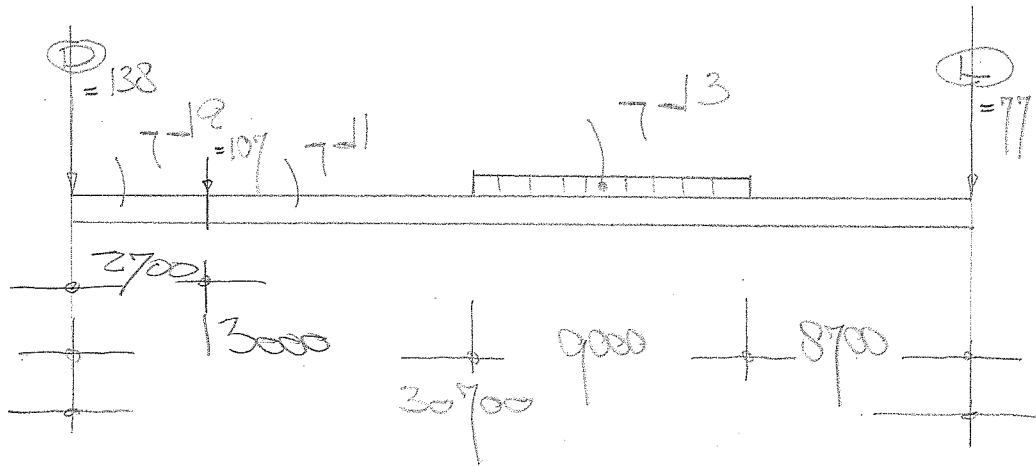
DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 7 t/m 12



Balk in as 5



$$r_{11} = (2 \times 10) = 120,4 \text{ kNm}$$

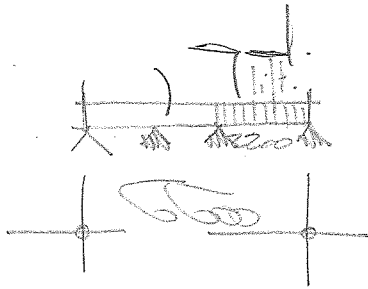
$$r_{12} \approx r_{11} = 120,4 \text{ kNm}$$

$$r_{\text{per } 3} = \text{Balkon} = q_1 = 0,6 = 1,2 \text{ kNm}$$

$$r_{13} = 1,2 \times 1,2 + 0,6 \times 1,5 = 0,5 \times 1,0 = 8,9 \text{ kNm}$$

Pal ds Balk in as 9

Balk in as D:



$$\begin{aligned}
 \gamma_p &= \frac{1}{2} \cdot k \cdot (1,25 + 0,5) \times 6,5 \\
 &= 2,5 \quad \times \quad 7,5 \\
 &= 2,5 \quad \times \quad 7,5 \\
 \text{beg} &= \quad \times \quad 4,4 \\
 \text{m.v.d} &= \quad \times \quad 4,0 \\
 \text{Balk} &= 9,0
 \end{aligned}$$

$$\begin{aligned}
 &= 10,5 \text{ kN/m} \\
 &= 13,1 \quad \text{"} \\
 &= 13,1 \quad \text{"} \\
 &= 7,7 \quad \text{"} \\
 &= 36,0 \quad \text{"} \\
 &= \frac{6,0}{85,4} \text{ kN/m}
 \end{aligned}$$

$$\gamma_t = 1,35 \cdot 85,4 + 1,5 \cdot 2,55 \cdot 1,25 \cdot 1,2$$

$$= 122,4 \text{ kN/m}$$

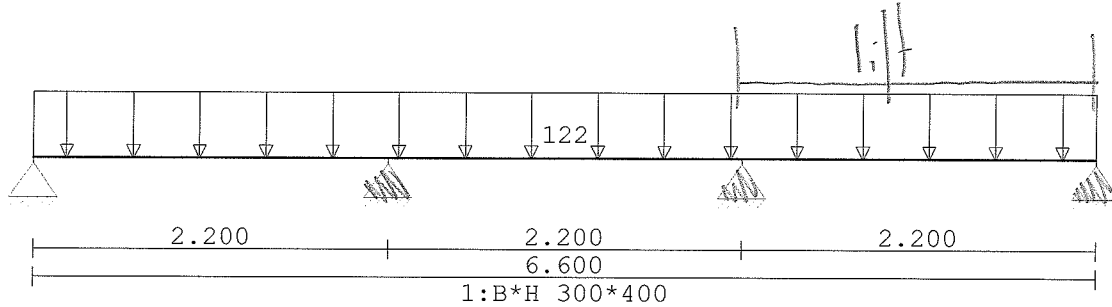
C 112

Project.....: -
Onderdeel.....:
Constructeur.: karel
Opdrachtgever:
Dimensies.....: kN/m/rad
Datum.....: 29/04/2016

C 112

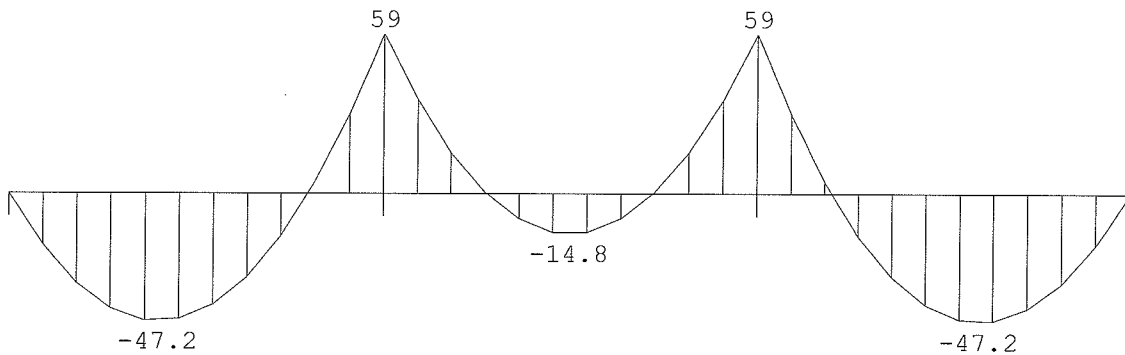
VELDBELASTINGEN

Ligger:1 B.G:1



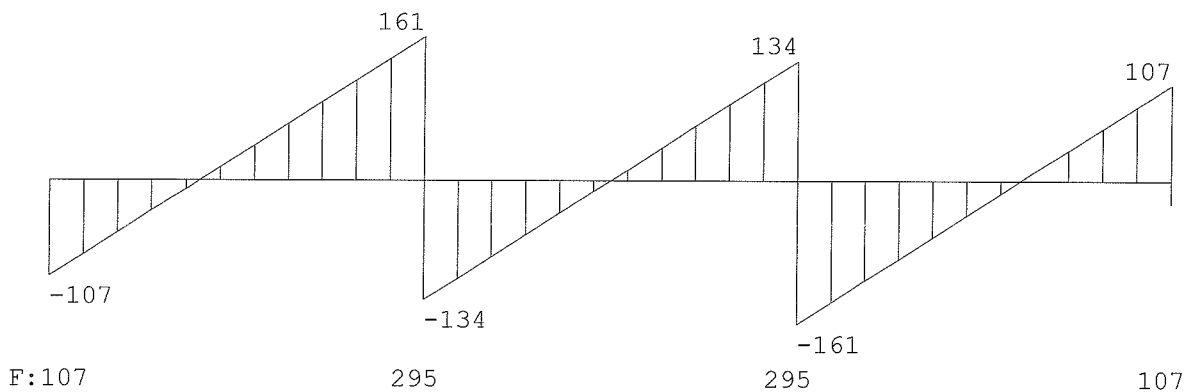
MOMENTEN

Ligger:1 B.G:1

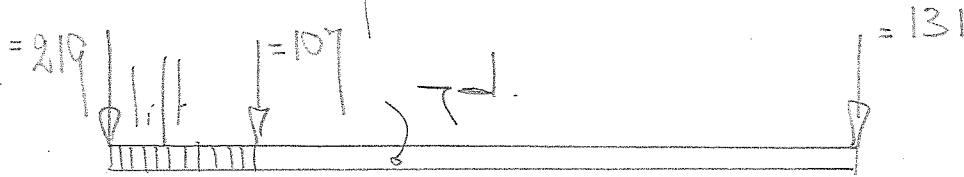


DWARSKRACHTEN

Ligger:1 B.G:1



Balk in as



γ_{ps}	= Dak	: 4,1	\times	6,5	
	T	: 4,1	\times	7,5	
	Geeg	: 4,2	\times	4,4	
	m.w	: 6,0	\times	3,0	
	Coak	:			

	\leq	26,7	kNm'
	\leq	3075	"
	\leq	18,48	"
	\leq	18,0	"
	\leq	6,0	"
		<hr/>	
		100,0	kNm'

$$T_d = 1,2 \times 100 + 1,5 \times 9,55 \times 4,1 \times \psi_{1,0}$$

$$= 151,0 \text{ kNm'}$$

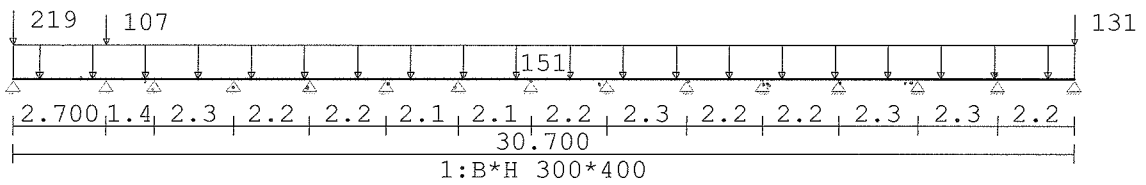
Zie C 113

Project.....: -
 Onderdeel.....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies.....: kN/m/rad
 Datum.....: 29/04/2016
 Bestand.....: c:\users\karel\documents\technosoft structural analysis\
 projects\steenbergen 7.dlw

113

VELDBELASTINGEN

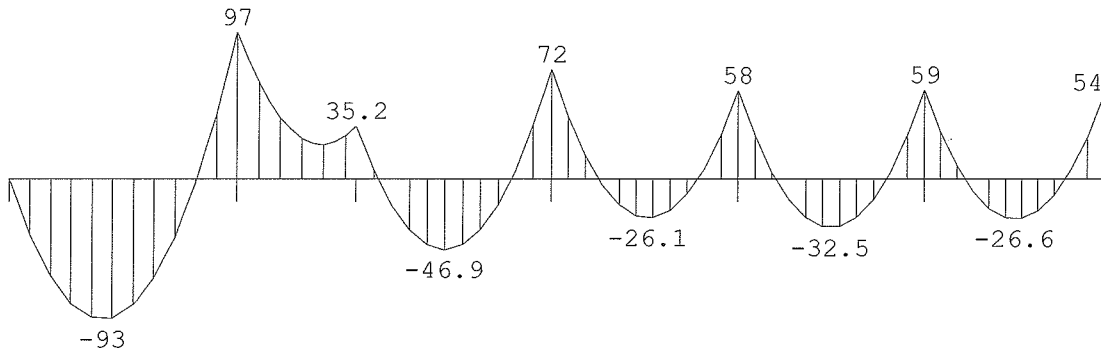
Ligger:1 B.G:1



MOMENTEN

Ligger:1 B.G:1

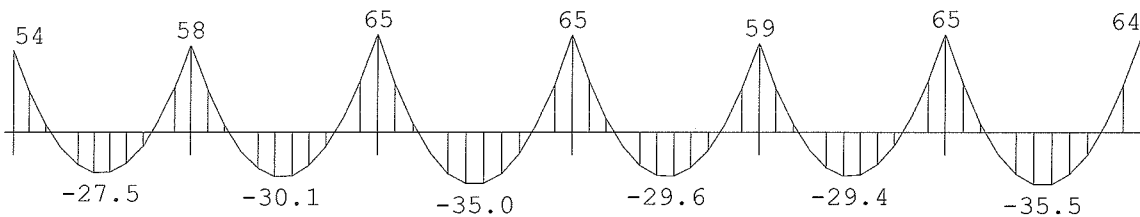
Velden: 1 t/m 6



MOMENTEN

Ligger:1 B.G:1

Velden: 7 t/m 12



TS/Liggers

Rel: 5.20 29 apr 2016

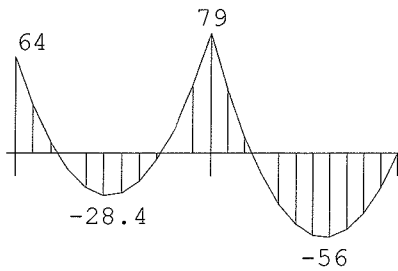
Project.....: -
 Onderdeel.....:

C 113

MOMENTEN

Ligger:1 B.G:1

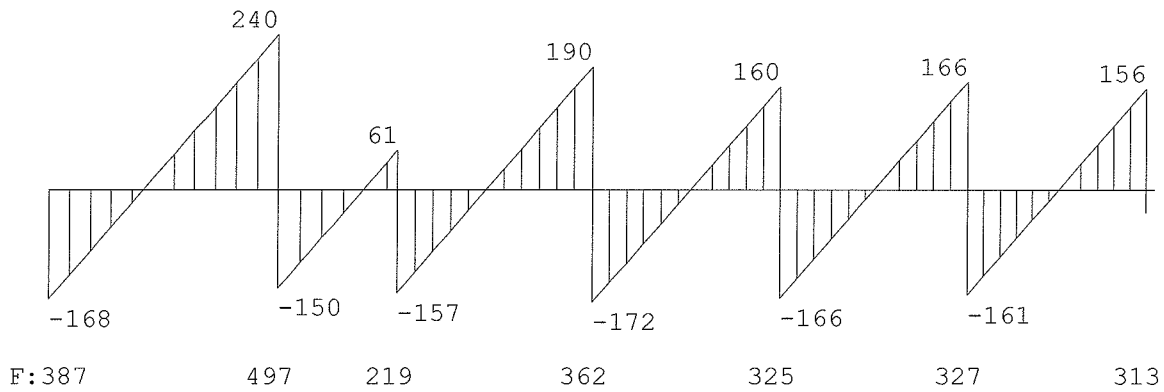
Velden: 13 t/m 14



DWARSKRACHTEN

Ligger:1 B.G:1

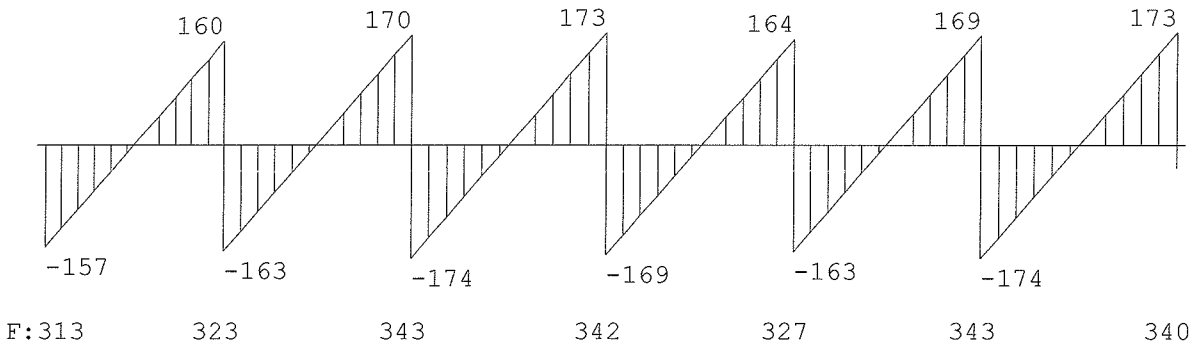
Velden: 1 t/m 6



DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 7 t/m 12



TS/Liggers

Rel: 5.20 29 apr 2016

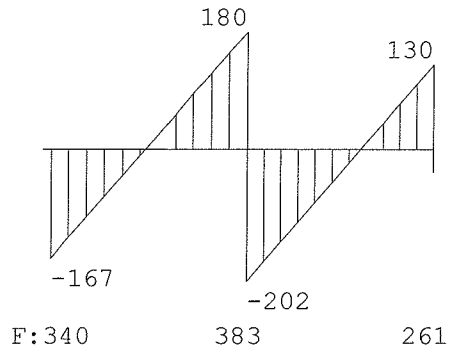
Project.....: -
Onderdeel.....:

C 113

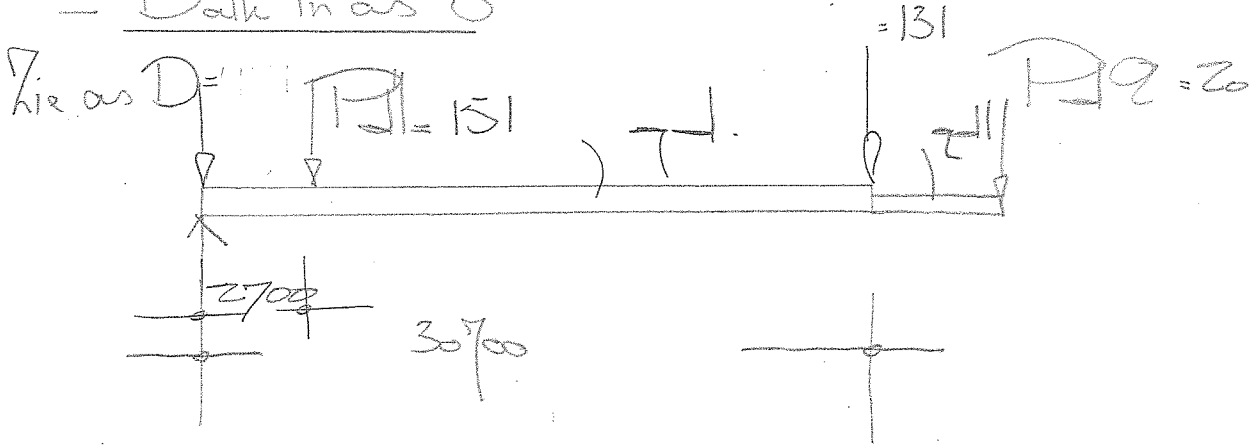
DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 13 t/m 14



Balk in as 8



$$P1 = 4,0 \times 2,165 = 1,35$$

$$= 133 \text{ kN}$$

$$M = \text{zie } 113$$

$$= 151 \text{ kNm}$$

$$\text{zie } 114$$

TS/Liggers

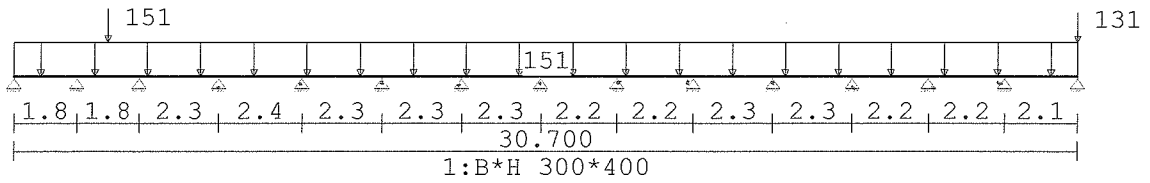
Rel: 5.20 29 apr 2016

Project.....: -
 Onderdeel.....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies.....: kN/m/rad
 Datum.....: 29/04/2016

C 114

VELDBELASTINGEN

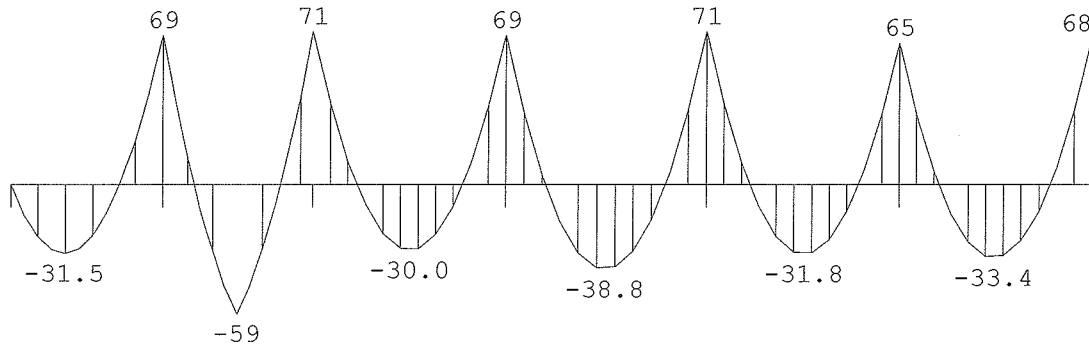
Ligger:1 B.G:1



MOMENTEN

Ligger:1 B.G:1

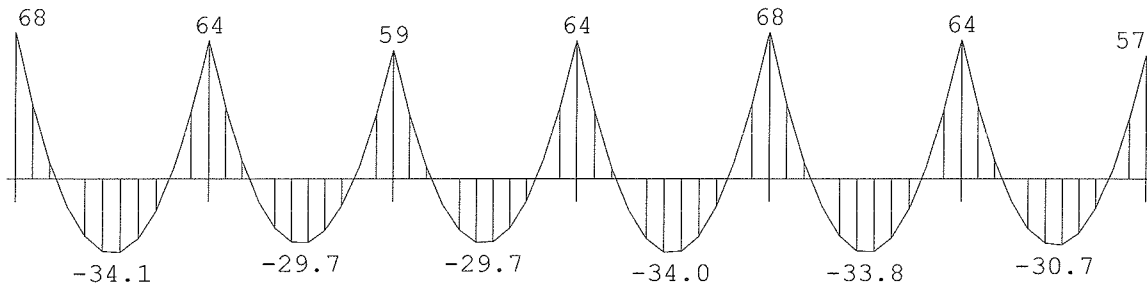
Velden: 1 t/m 6



MOMENTEN

Ligger:1 B.G:1

Velden: 7 t/m 12



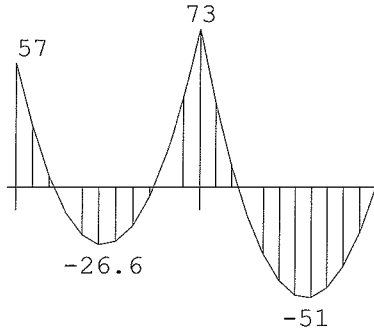
Project.....: -
 Onderdeel.....:

114

MOMENTEN

Ligger:1 B.G:1

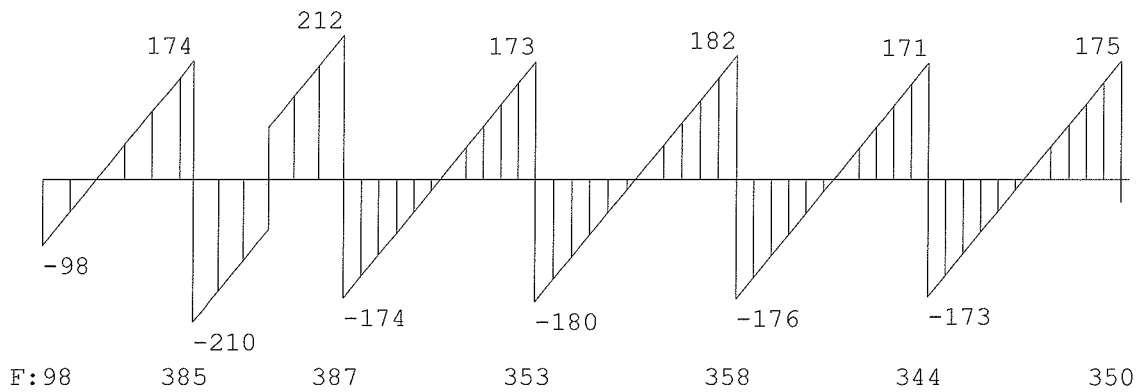
Velden: 13 t/m 14



DWARSKRACHTEN

Ligger:1 B.G:1

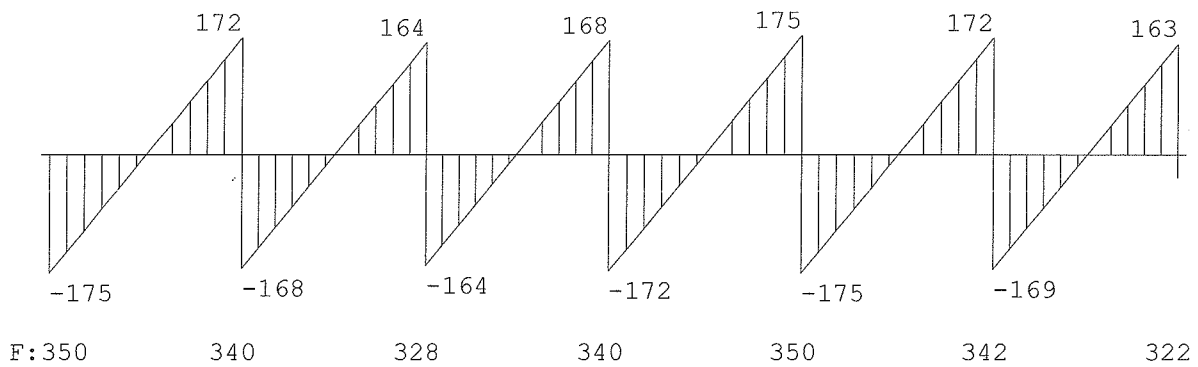
Velden: 1 t/m 6



DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 7 t/m 12



TS/Liggers

Rel: 5.20 29 apr 2016

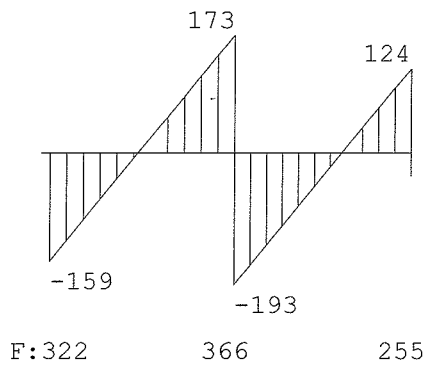
Project.....: -
Onderdeel.....:

114

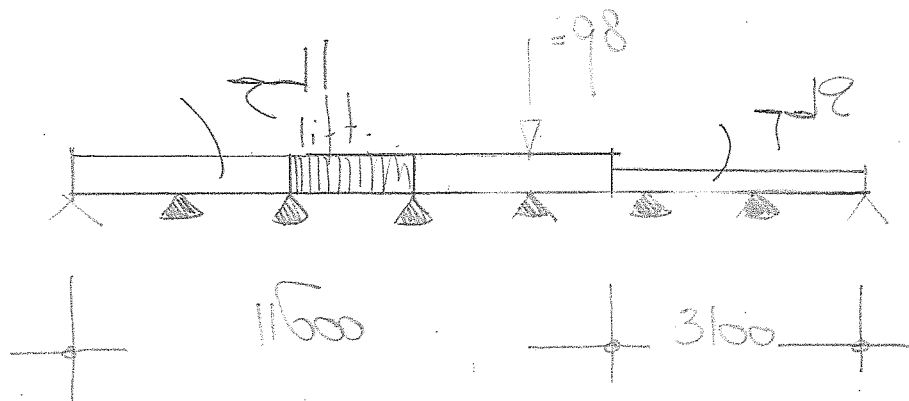
DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 13 t/m 14



Balk in as D



$$\begin{aligned} \tau_{p-1} &= \begin{array}{l} \text{dak} : 9,6 \times 6,5 \\ 2 : 9,6 \times 4,5 \\ \text{beg} : 9,6 \times 4,5 \\ \text{m.w.} : 9,0 \times 4,0 \\ \text{balk} : 1 \end{array} \\ &= \begin{array}{l} 62,4 \\ 43,2 \\ 43,2 \\ 36,0 \\ 1 \end{array} \text{ KN/m} \\ &= 108,3 \text{ KN/m} \end{aligned}$$

$$\tau_{d1} = 1,35 \times 108,3 + 1,5 \times 9,6 \times 0,55 \times 1,2 = 158 \text{ KN/m}$$

$$\tau_{d2} = 109 = 60,0 \text{ KN/m}$$

TS/Liggers

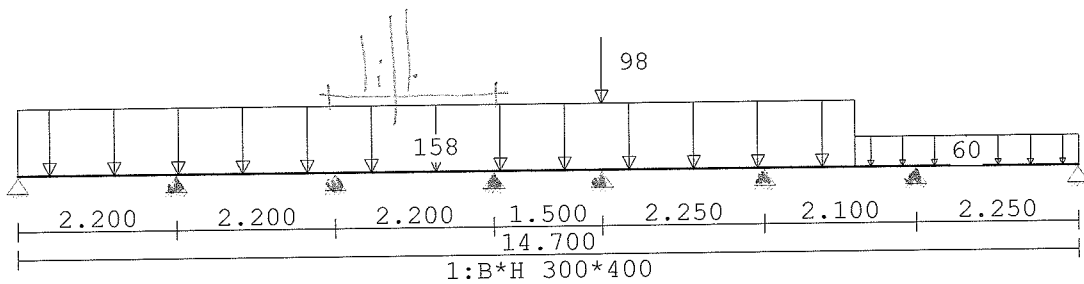
Rel: 5.20 29 apr 2016

Project.....: -
 Onderdeel.....:
 Constructeur.: karel
 Opdrachtgever:
 Dimensies....: kN/m/rad
 Datum.....: 29/04/2016
 Bestand.....: c:\users\karel\documents\technosoft structural analysis\
 projects\steenbergen d.dlw

C 115

VELDBELASTINGEN

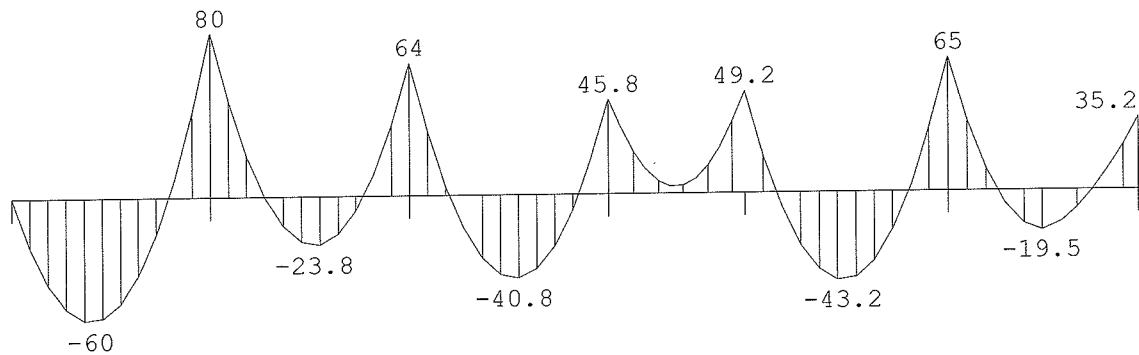
Ligger:1 B.G:1



MOMENTEN

Ligger:1 B.G:1

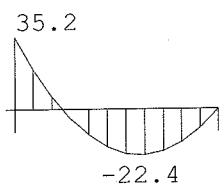
Velden: 1 t/m 6



MOMENTEN

Ligger:1 B.G:1

Velden: 7 t/m 7



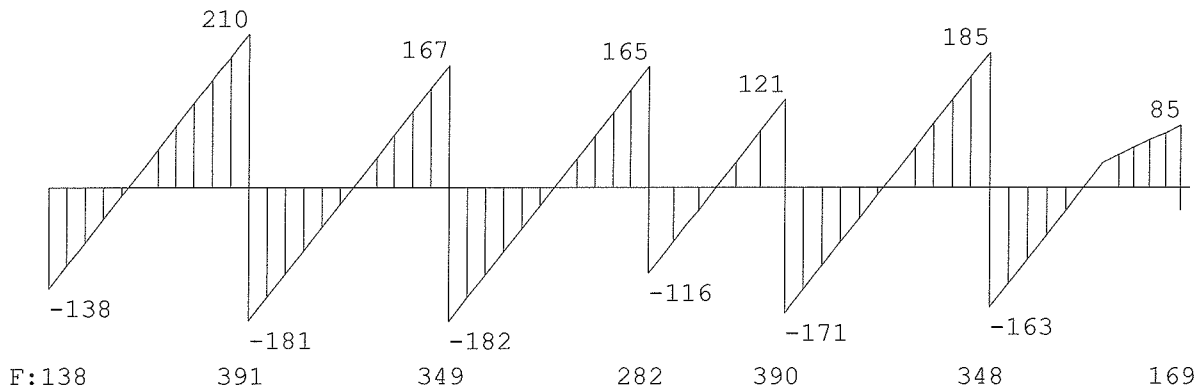
Project.....: -
Onderdeel.....:

C 115

DWARSKRACHTEN

Ligger:1 B.G:1

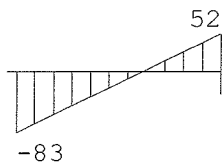
Velden: 1 t/m 6



DWARSKRACHTEN

Ligger:1 B.G:1

Velden: 7 t/m 7



F:169 52