

Eisen daglichttoetreding volgens Bouwbesluit

- 1) Elk verblijfsgebied (VG) heeft een Ae-totaal van minimaal 10% van vloeropp. van VG (BB art 3.75, lid 1)
- 2) Elke verblijfsruimte (VR) heeft een Ae van minimaal 0,50m² (BB art 3.75, lid 2)
- 3) Totaal verblijfsgebied (VG) is minimaal 55% van gebruiksoppervlak (GO), BB art 4.2, lid 2

CONCLUSIES Daglichtberekening

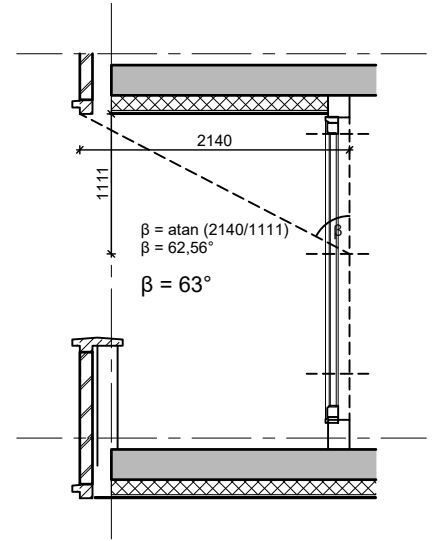
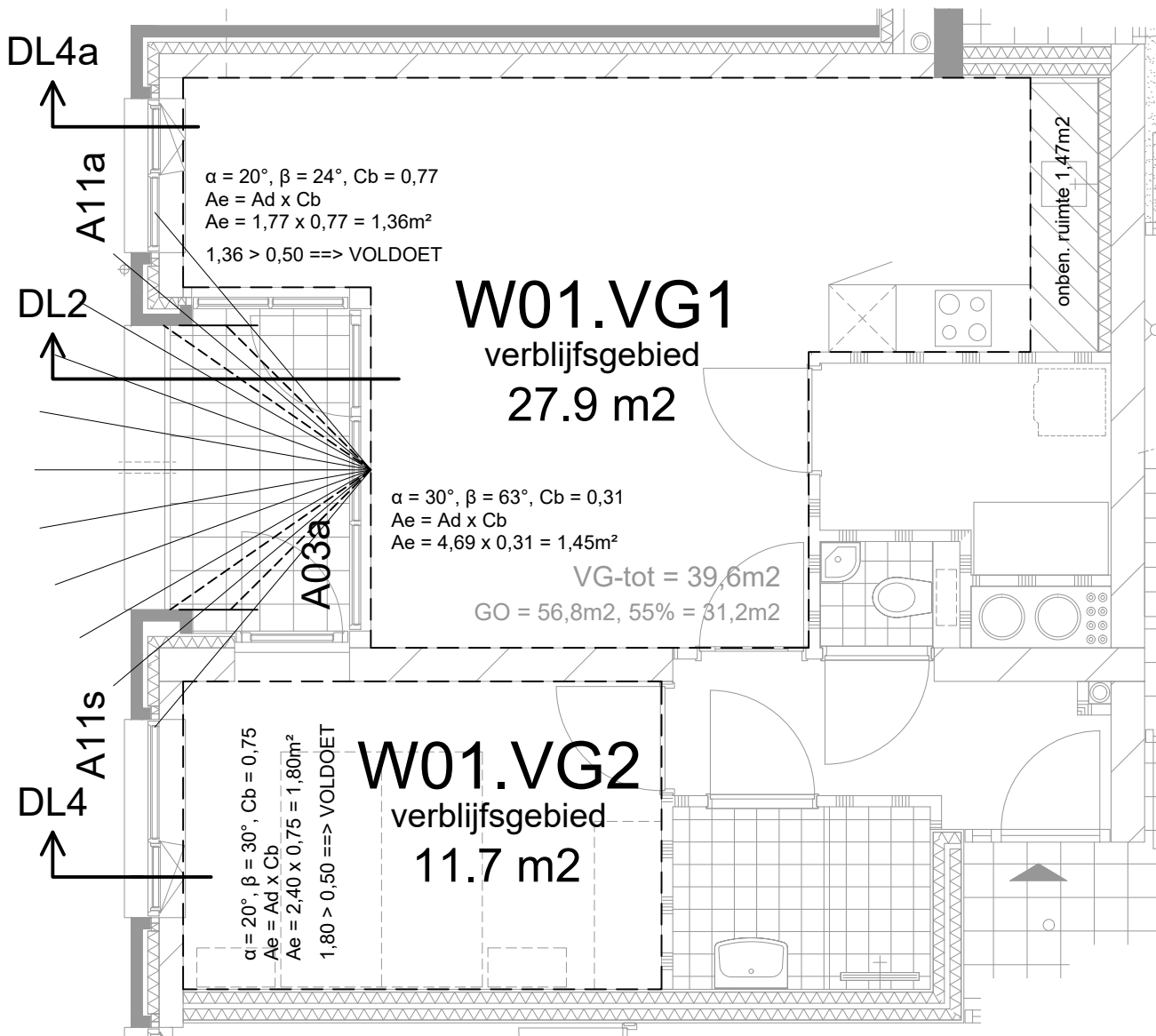
Woning 01 (BG) ==> VOLDOET, met 1,47m² onbenoemde ruimte in woonkamer
Woning 02 (BG) ==> VOLDOET
Woning 03 (BG) ==> VOLDOET
Woning 04 (BG) ==> VOLDOET
Woning 05 (BG) ==> VOLDOET, met 2,50m² onbenoemde ruimte in slaapkamer

Woning 06 (1e verd) ==> VOLDOET
Woning 07 (1e verd) ==> VOLDOET
Woning 08 (1e verd) ==> VOLDOET
Woning 09 (1e verd) ==> VOLDOET
Woning 10 (1e verd) ==> VOLDOET, identiek aan woning 08
Woning 11 (1e verd) ==> VOLDOET
Woning 12 (1e verd) ==> VOLDOET

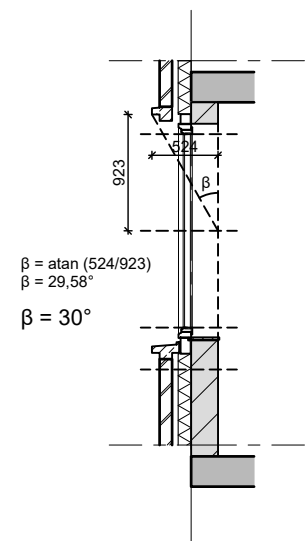
Woning 13 (2e verd) ==> VOLDOET, met 0,76m² ob-ruimte in woonkamer, 1,40m² ob-ruimte in slaapkamer
Woning 14 (2e verd) ==> VOLDOET, met 7,45m² ob-ruimte in woonkamer, 0,21m² ob-ruimte in slaapkamer
ruimte achter loggia is bergruimte (voldoet niet aan min. 0,50m² Ae)
Woning 15 (2e verd) ==> VOLDOET, met 3,56m² ob-ruimte in woonkamer
Woning 16 (2e verd) ==> VOLDOET, met 2,57m² ob-ruimte in woonkamer
Woning 17 (2e verd) ==> VOLDOET, identiek aan woning 15
Woning 18 (2e verd) ==> VOLDOET, met 6,95m² ob-ruimte in woonkamer, 2,52m² ob-ruimte in slaapkamer
ruimte achter loggia is bergruimte (voldoet niet aan min. 0,50m² Ae)
Woning 19 (2e verd) ==> VOLDOET

Woning 20 (3e verd) ==> VOLDOET
Woning 21 (3e verd) ==> VOLDOET
Woning 22 (3e verd) ==> VOLDOET
Woning 23 (3e verd) ==> VOLDOET, identiek aan woning 22
Woning 24 (3e verd) ==> VOLDOET
Woning 25 (3e verd) ==> VOLDOET

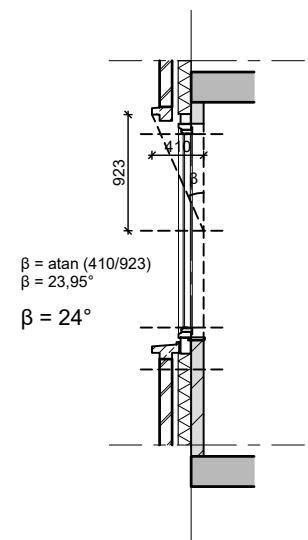
Voor gedetailleerde berekening per woning, zie volgende pagina's.



Doorsnede DL2

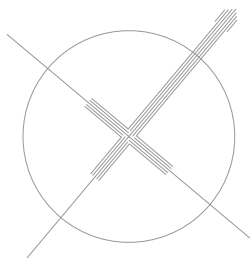


Doorsn. DL4



Doorsn. DL4a

App 01
2k-woning
GO = 57,7m2

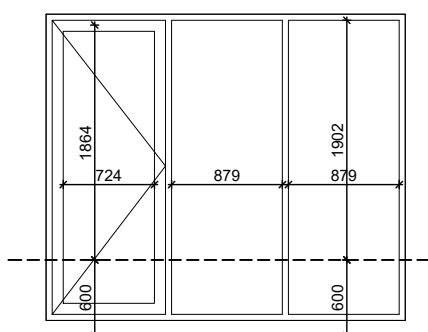


Berekening app 01

VG1 = 27,9 m2
 $A_{e,tot} = 1,36 + 1,45 = 2,81 \text{ m2}$
 $A_{e,min} = 10\% \times \text{opp VG}, 0,10 \times 27,9 = 2,79$
 $2,81 > 2,79 \implies \text{VOLDOET}$

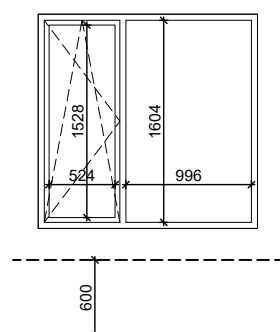
VG2 = 11,7 m2
 $A_{e,tot} = 1,80 \text{ m2}$
 $A_{e,min} = 10\% \times \text{opp VG}, 0,10 \times 11,7 = 1,17$
 $1,80 > 1,17 \implies \text{VOLDOET}$

GO = 56,8 m2
VG min 55% GO, $\implies 0,55 \times 56,8 = 31,2 \text{ m2}$
VG,tot = 27,9 + 11,7 = 39,6 m2 $\implies \text{VOLDOET}$



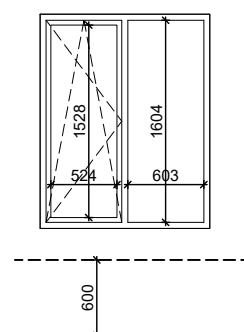
$A_d = 0,724 \times 1,864 + 2 \times 0,879 \times 1,902$
 $A_d = 4,69 \text{ m}^2$

A03a, $A_d = 4,69\text{m}^2$



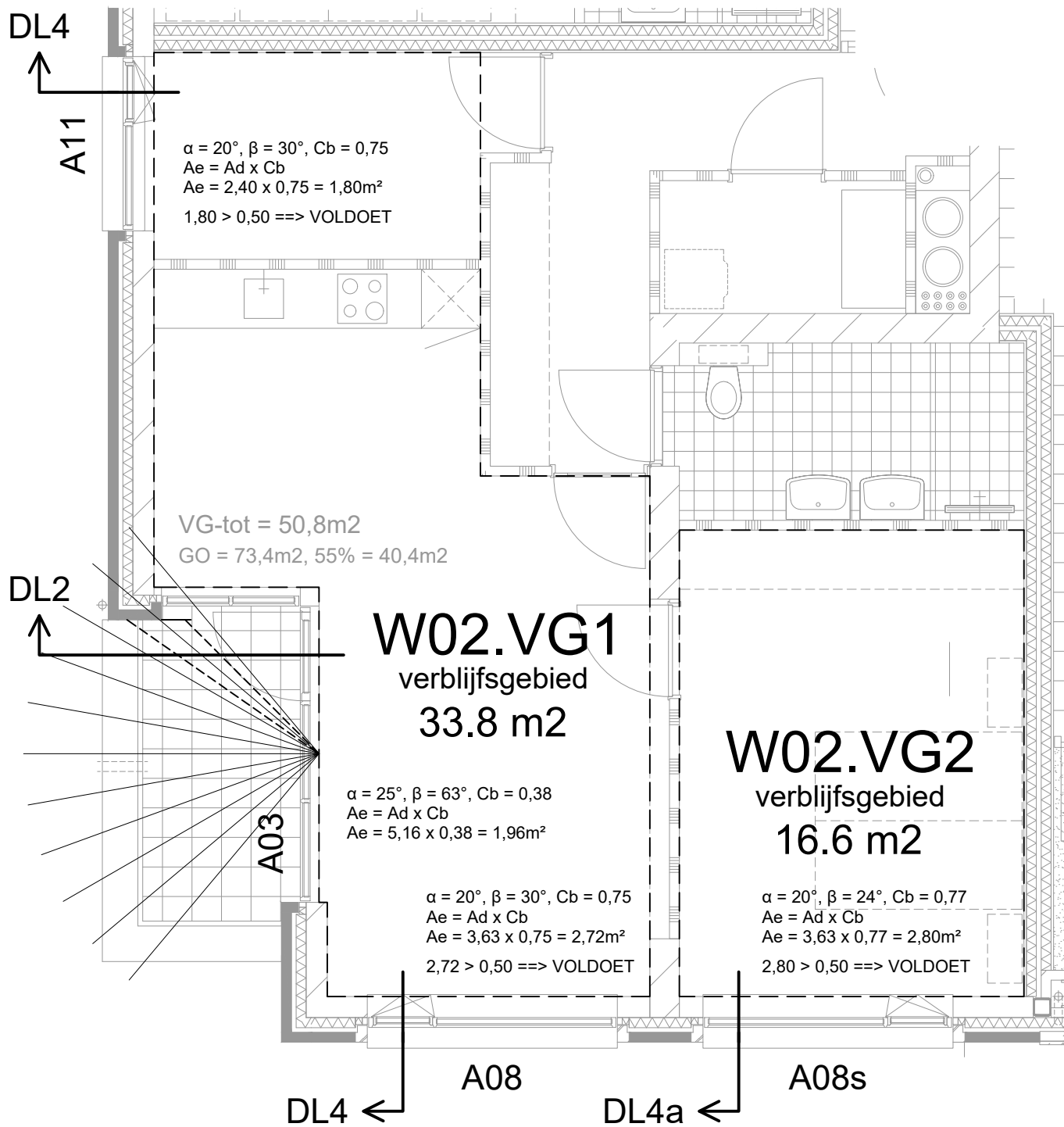
$A_d = 0,524 \times 1,528 + 0,996 \times 1,604$
 $A_d = 2,40 \text{ m}^2$

A11, $A_d = 2,40\text{m}^2$

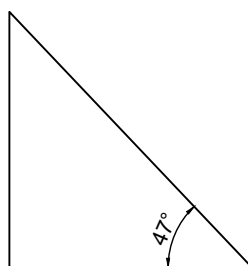
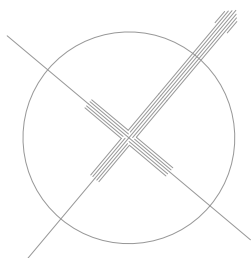


$A_d = 0,524 \times 1,528 + 0,603 \times 1,604$
 $A_d = 1,77 \text{ m}^2$

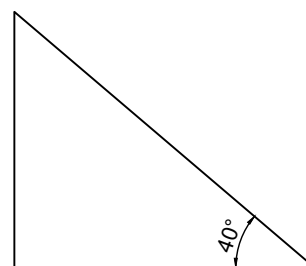
A11a, $A_d = 1,77\text{m}^2$



App 02
3k-woning
GO = 71,6m²

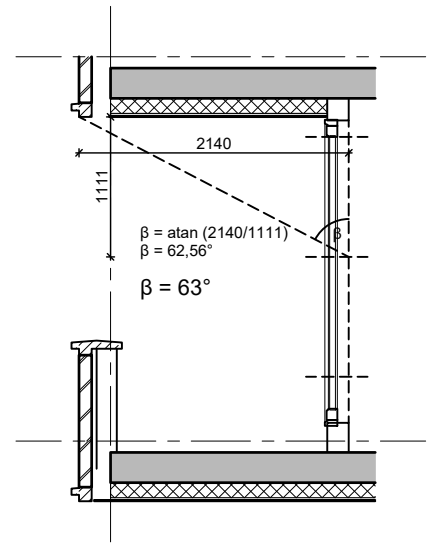


α , segment 1 = 47°

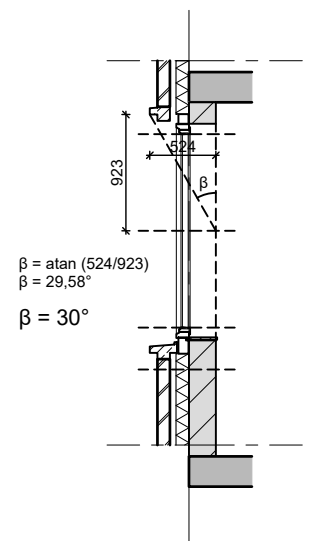


α , segment 1 = 40°

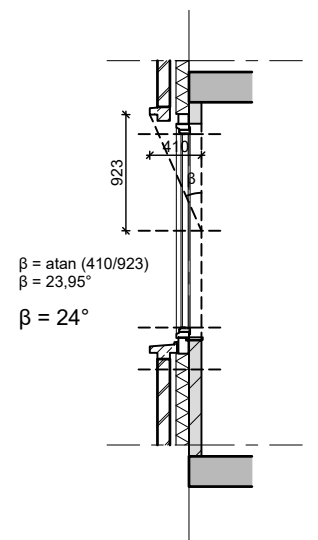
α , gem = $(47 + 40 + 8 \times 20) / 10 =$
 α , gem = $247 / 10 = 25^\circ$



Doorsnede DL2



Doorsn. DL4



Doorsn. DL4a

Berekening app 02

VG1 = 33,8 m²

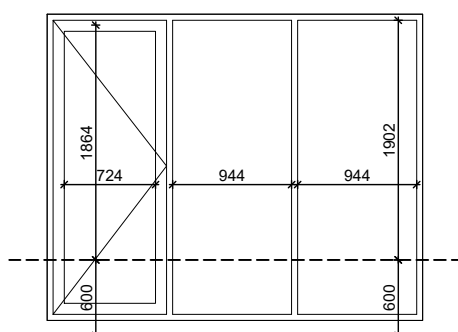
$Ae_{tot} = 1,80 + 1,96 + 2,72 = 6,48 \text{ m}^2$
 $Ae_{min} = 10\% \times \text{opp VG}, 0,10 \times 33,8 = 3,38$
 $6,48 > 3,38 \implies \text{VOLDOET}$

VG2 = 16,6 m²

$Ae_{tot} = 2,80 \text{ m}^2$
 $Ae_{min} = 10\% \times \text{opp VG}, 0,10 \times 16,6 = 1,66$
 $2,80 > 1,66 \implies \text{VOLDOET}$

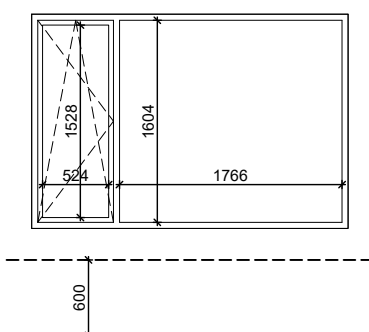
GO = 73,4 m²

$\text{VG min } 55\% \text{ GO}, \implies 0,55 \times 73,4 = 40,4 \text{ m}^2$
 $\text{VG}_{tot} = 33,8 + 16,6 = 50,4 \text{ m}^2 \implies \text{VOLDOET}$



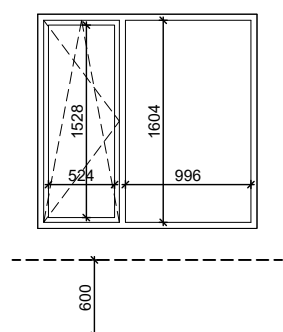
$Ad = 0,724 \times 1,864 + 2 \times 0,944 \times 1,902$
 $Ad = 4,94 \text{ m}^2$

A03, Ad = 4,94m²



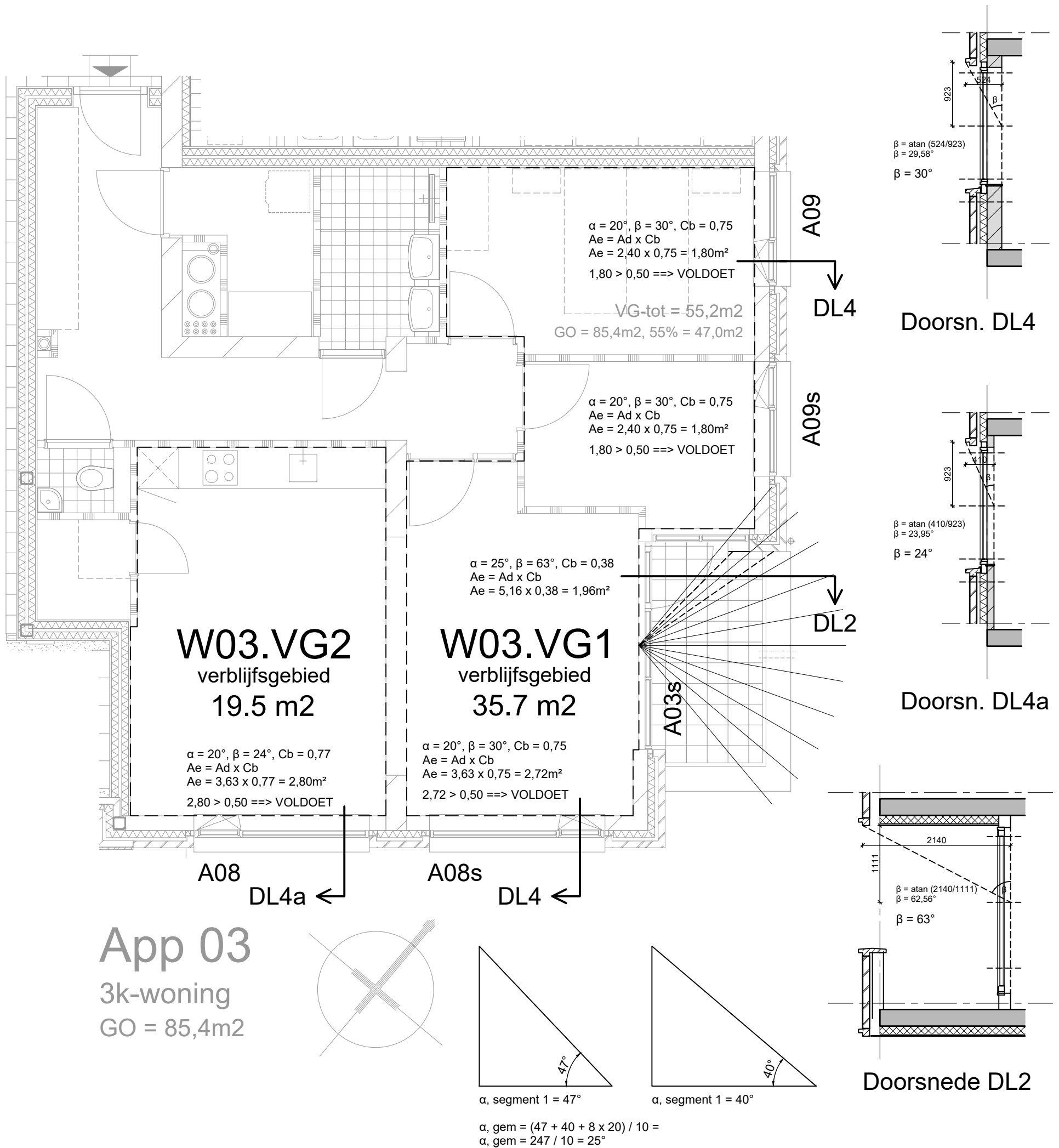
$Ad = 0,524 \times 1,528 + 1,766 \times 1,604$
 $Ad = 3,63 \text{ m}^2$

A08, Ad = 3,63m²



$Ad = 0,524 \times 1,528 + 0,996 \times 1,604$
 $Ad = 2,40 \text{ m}^2$

A11, Ad = 2,40m²



Berekening app 03

VG1 = 35,7 m²

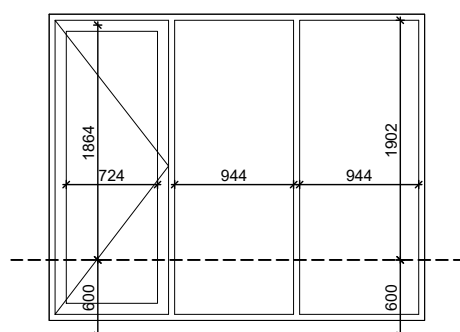
$A_{e,\text{tot}} = 2,72 + 1,96 + 1,80 = 6,48\text{m}^2$
 $A_{e,\text{min}} = 10\% \times \text{opp VG}, 0,10 \times 35,7 = 3,57$
 $6,48 > 3,57 \Rightarrow \text{VOLDOET}$

VG2 = 19,5 m²

$A_{e,\text{tot}} = 2,80\text{m}^2$
 $A_{e,\text{min}} = 10\% \times \text{opp VG}, 0,10 \times 19,5 = 1,95$
 $2,80 > 1,95 \Rightarrow \text{VOLDOET}$

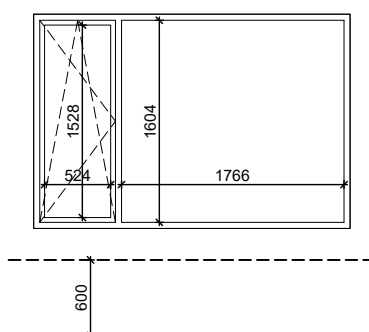
GO = 85,4 m²

VG min 55% GO, $\Rightarrow 0,55 \times 85,4 = 47,0\text{m}^2$
VG-tot = 35,7 + 19,5 = 55,2 m² $\Rightarrow \text{VOLDOET}$



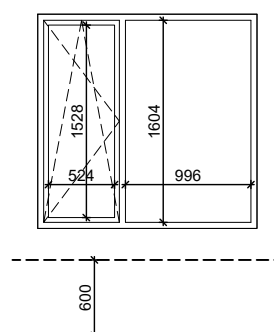
$A_d = 0,724 \times 1,864 + 2 \times 0,944 \times 1,902$
 $A_d = 4,94\text{m}^2$

A03, $A_d = 4,94\text{m}^2$



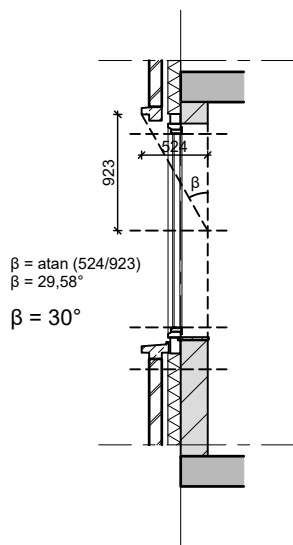
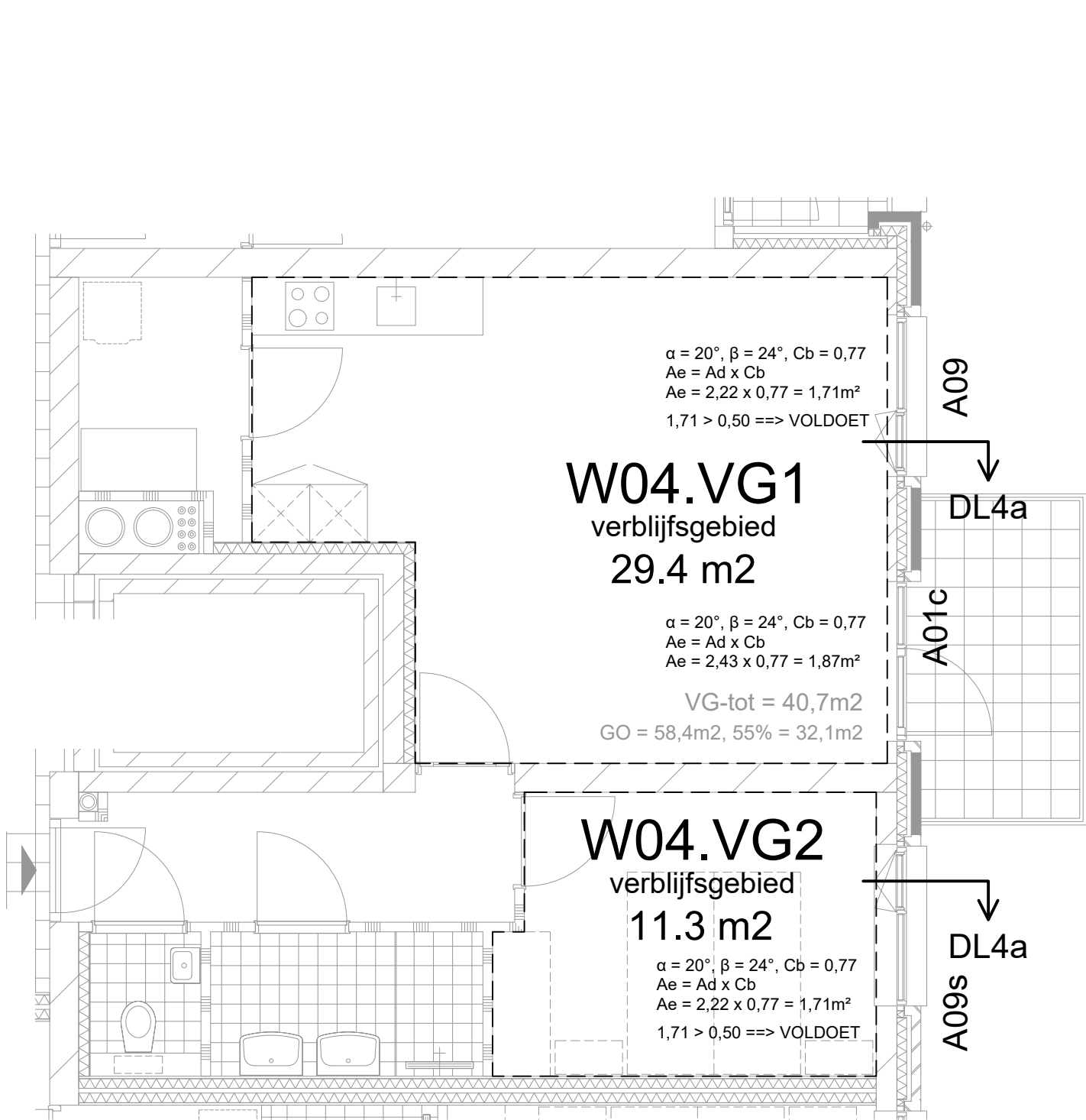
$A_d = 0,524 \times 1,528 + 1,766 \times 1,604$
 $A_d = 3,63\text{m}^2$

A08, $A_d = 3,63\text{m}^2$

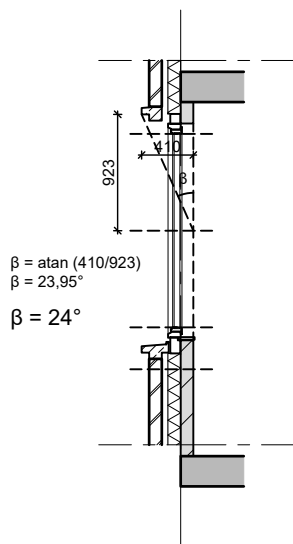


$A_d = 0,524 \times 1,528 + 0,996 \times 1,604$
 $A_d = 2,40\text{m}^2$

A11, $A_d = 2,40\text{m}^2$



Doorsn. DL4

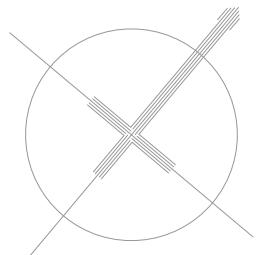


Doorsn. DL4a

App 04

2k-woning

GO = 58,2m2



Berekening app 04

VG1 = 29,4 m2

Ae,tot = 1,71 + 1,87 = 3,58 m2

Ae,min = 10% x opp VG, 0,10 x 29,4 = 2,94

3,58 > 2,94 ==> VOLDOET

VG2 = 11,3 m2

Ae,tot = 1,71 m2

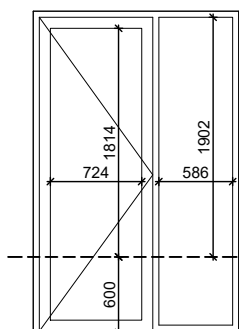
Ae,min = 10% x opp VG, 0,10 x 11,3 = 1,13

1,71 > 1,13 ==> VOLDOET

GO = 58,4 m2

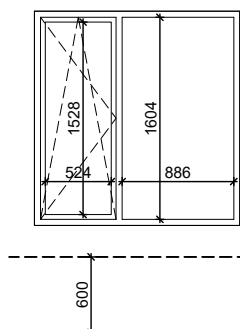
VG min 55% GO, ==> 0,55 x 58,4 = 32,1 m2

VG,tot = 29,4 + 11,3 = 40,7m2 ==> VOLDOET



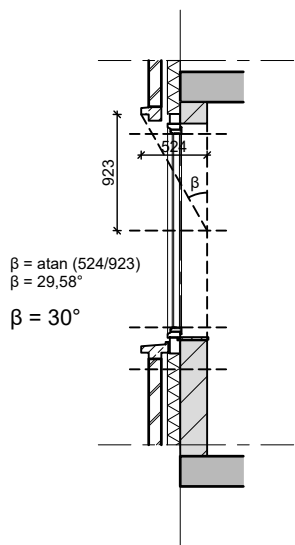
Ad = 0,724 x 1,814 + 0,586 x 1,902
Ad = 2,43 m²

A01c, Ad = 2,43m²

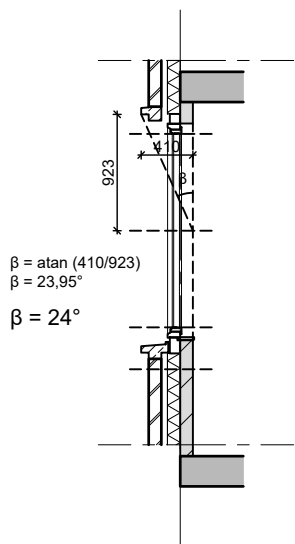


Ad = 0,524 x 1,528 + 0,886 x 1,604
Ad = 2,40 m²

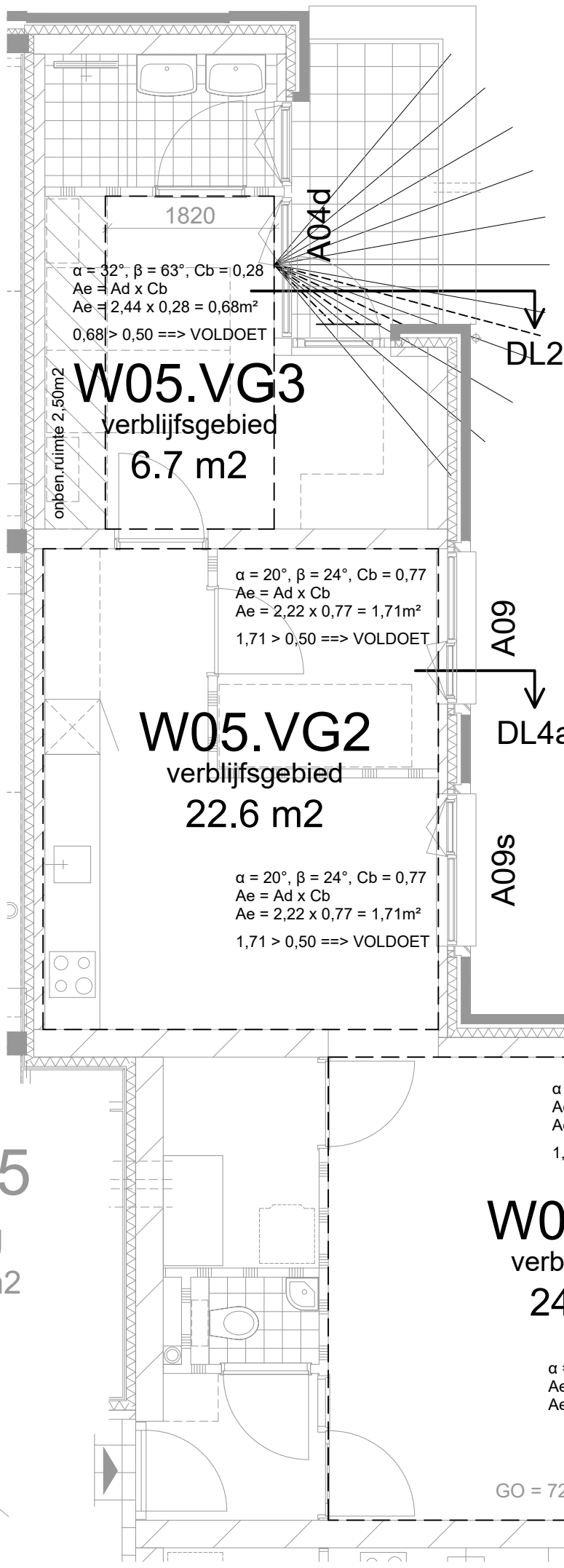
A09, Ad = 2,22m²



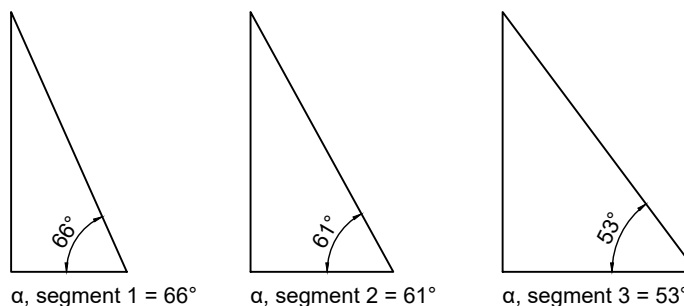
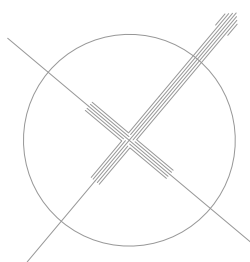
Doorsn. DL4



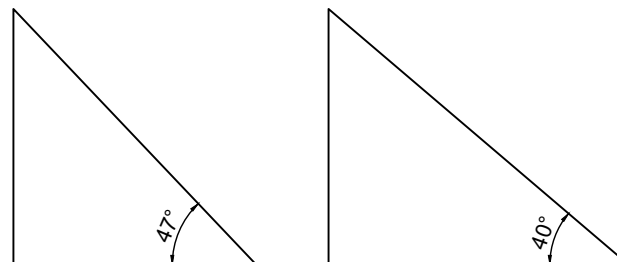
Doorsn. DL4a



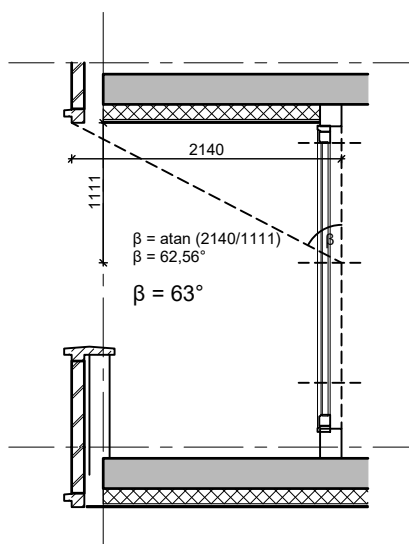
App 05
3k-woning
GO = 72,6m2



$\alpha, \text{gem} = (66 + 61 + 53 + 7 \times 20) / 10 =$
 $\alpha, \text{gem} = 320 / 10 = 32^\circ$



$\alpha, \text{gem} = (47 + 40 + 8 \times 20) / 10 =$
 $\alpha, \text{gem} = 247 / 10 = 25^\circ$



Doorsnede DL2

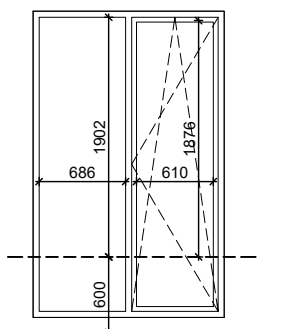
Berekening app 05

VG1 = 24,1 m2
Ae,tot = 1,88 + 1,80 = 3,68 m2
Ae,min = 10% x opp VG, 0,10 x 24,1 = 2,41
3,68 > 2,41 ==> VOLDOET

VG2 = 22,6 m2
Ae,tot = 1,71 + 1,71 = 3,42 m2
Ae,min = 10% x opp VG, 0,10 x 22,6 = 2,26
3,42 > 2,26 ==> VOLDOET

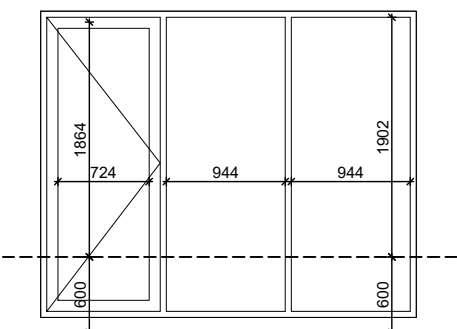
VG3 = 6,7 m2
Ae,tot = 0,68 m2
Ae,min = 10% x opp VG, 0,10 x 6,7 = 0,67
0,68 > 0,67 ==> VOLDOET

GO = 72,4 m2
VG min 55% GO, ==> 0,55 x 72,4 = 39,8 m2
VG,tot = 24,1 + 22,6 + 6,7 = 53,4 m2 ==> VOLDOET



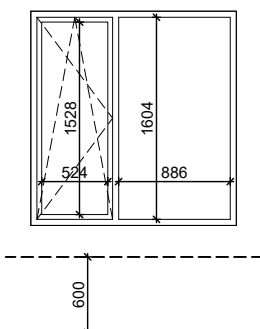
$Ad = 0,686 \times 1,902 + 0,610 \times 1,873$
 $Ad = 2,44 \text{ m}^2$

A04c, Ad = 2,44m²



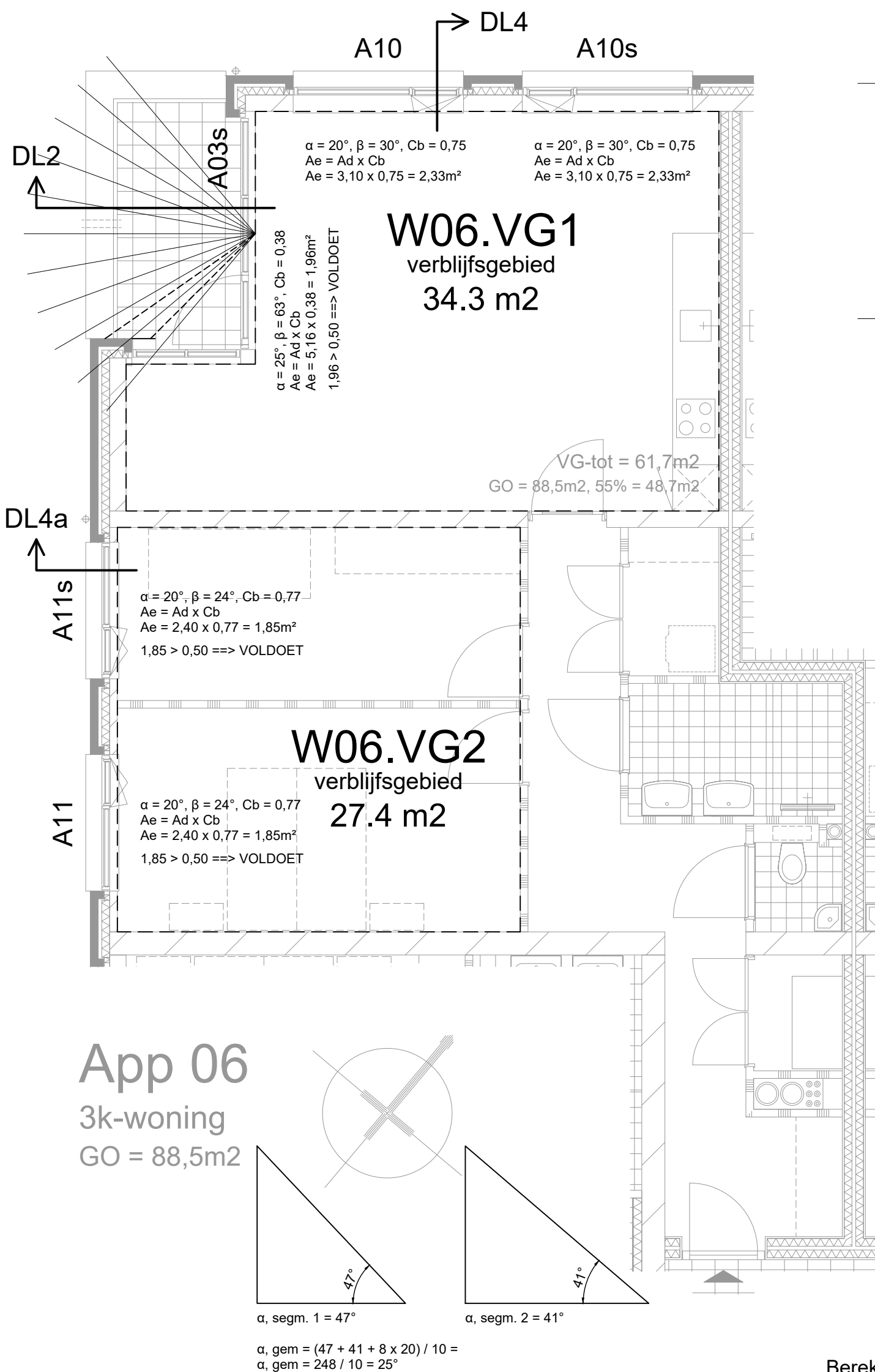
$Ad = 0,724 \times 1,864 + 2 \times 0,944 \times 1,902$
 $Ad = 4,94 \text{ m}^2$

A03, Ad = 4,94m²



$Ad = 0,524 \times 1,528 + 0,886 \times 1,604$
 $Ad = 2,40 \text{ m}^2$

A09, Ad = 2,22m²



Doorsnede DL2

Doorsn. DL4

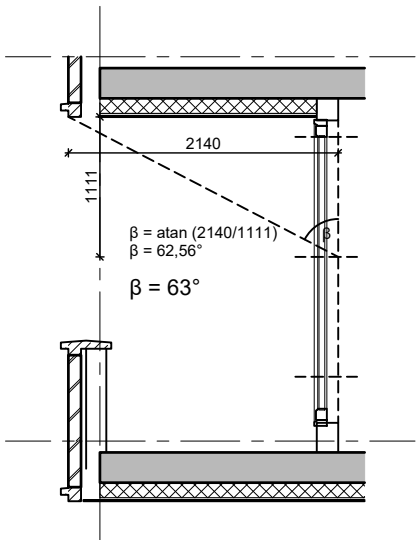
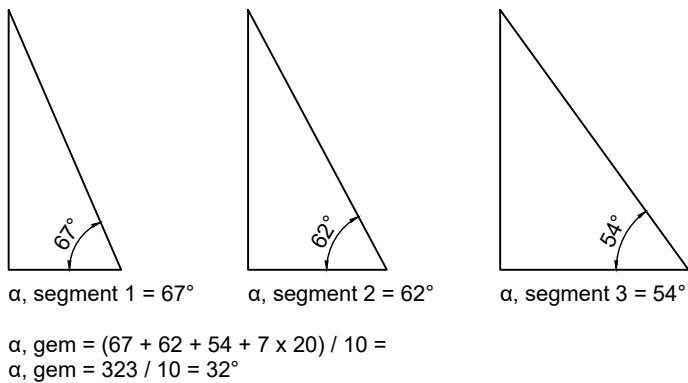
Doorsn. DL4a

Berekening app 06

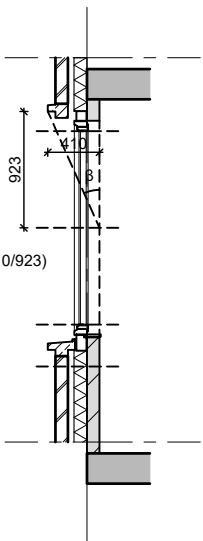
VG1 = 34,3m²
Ae,tot = 2,33 + 2,33 + 1,96 = 6,62 m²
Ae,min = 10% x opp VG, 0,10 x 34,3 = 3,43
6,62 > 3,43 ==> VOLDOET

VG2 = 27,4m²
Ae,tot = 1,85 + 1,85 = 3,70 m²
Ae,min = 10% x opp VG, 0,10 x 27,4 = 2,74
3,70 > 2,74 ==> VOLDOET

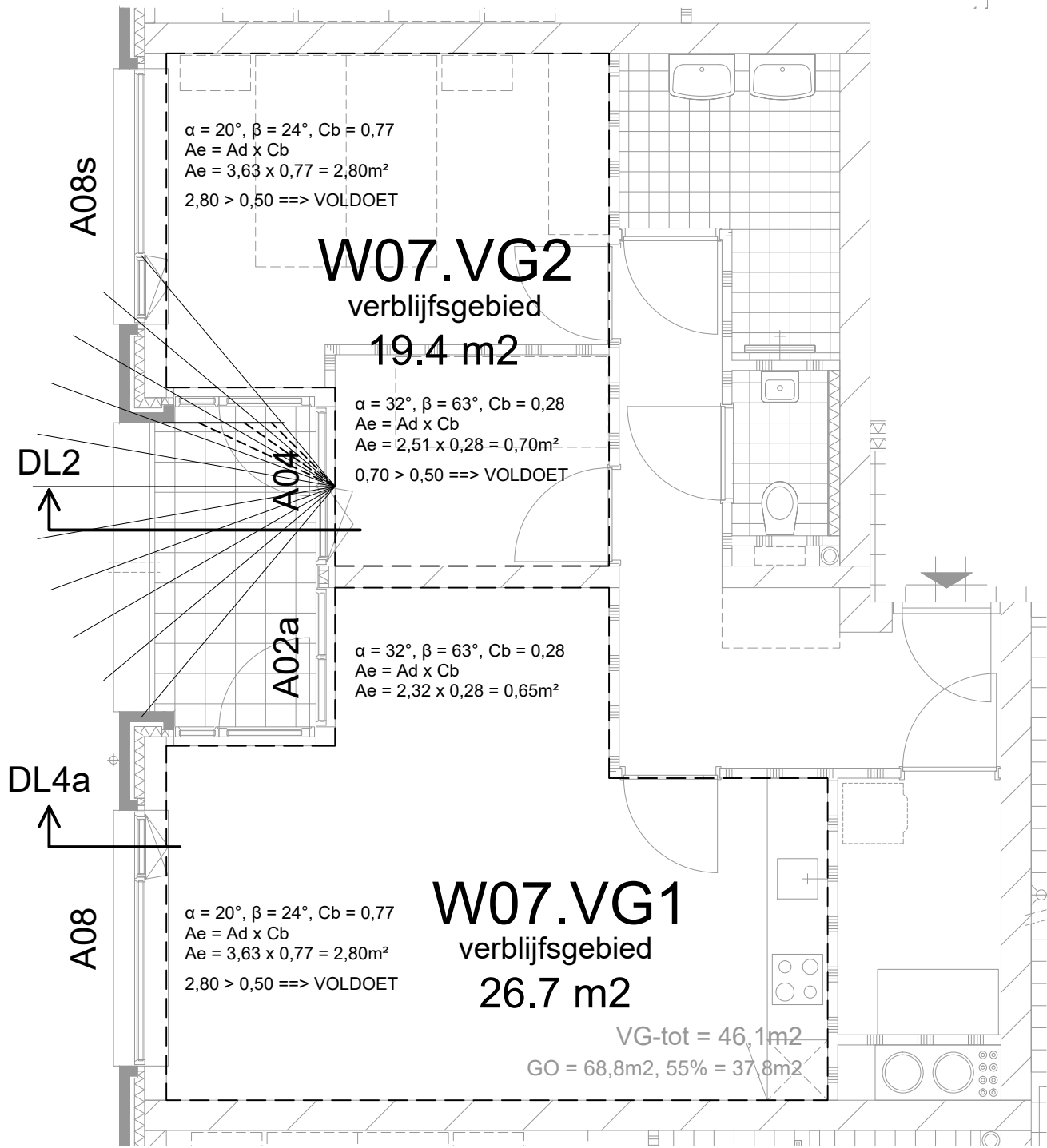
GO = 88,5 m²
VG min 55% GO, ==> 0,55 x 88,5 = 48,7 m²
VG,tot = 34,3 + 27,4 = 61,7 m² ==> VOLDOET



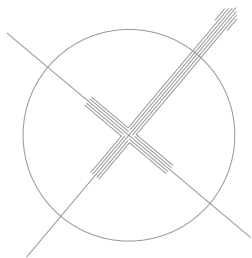
Doorsnede DL2



Doorsn. DL4a



App 07
3k-woning
GO = 68,8m2

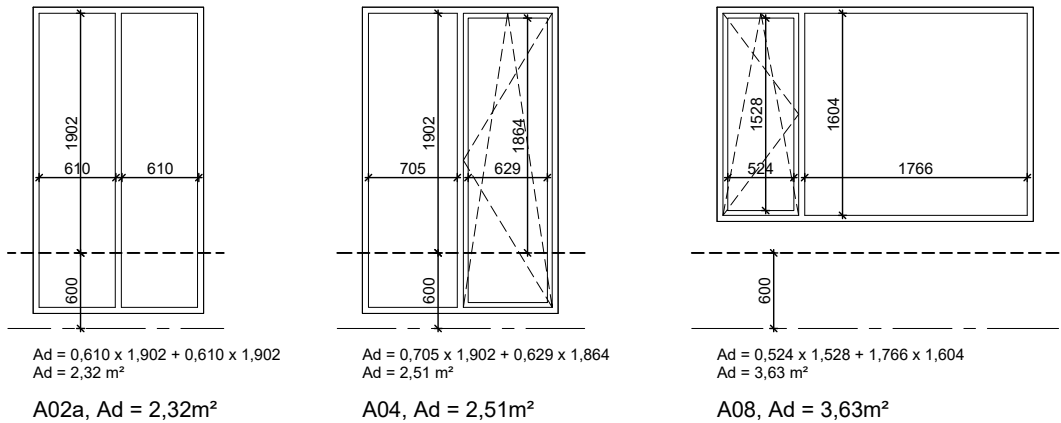


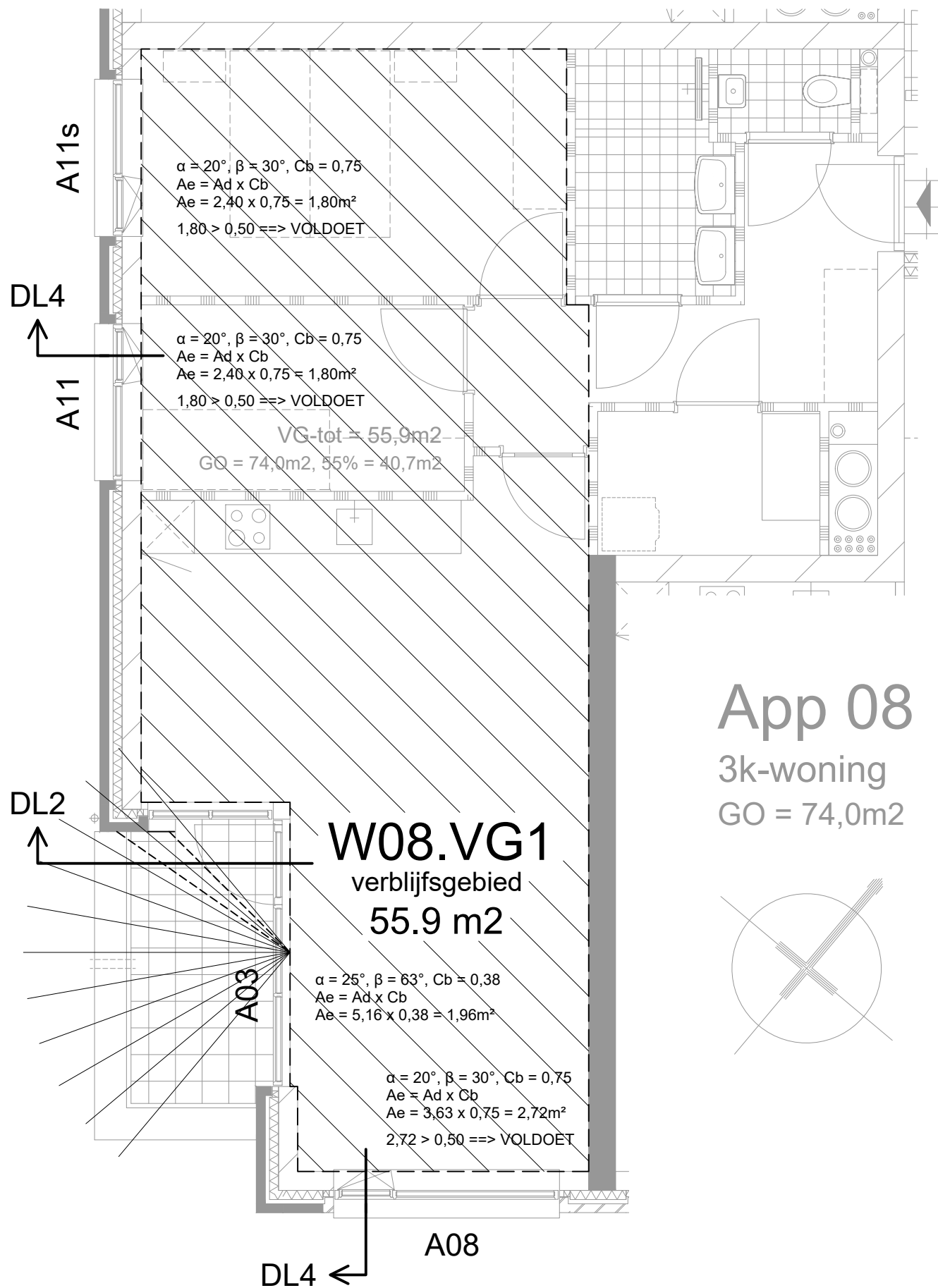
Berekening app 07

VG1 = 26,7 m2
Ae,tot = 2,80 + 0,65 = 3,45 m2
Ae,min = 10% x opp VG, 0,10 x 26,7 = 2,67
3,45 > 2,67 ==> VOLDOET

VG2 = 19,4 m2
Ae,tot = 2,80 + 0,70 = 3,50 m2
Ae,min = 10% x opp VG, 0,10 x 19,4 = 1,94
3,50 > 1,94 ==> VOLDOET

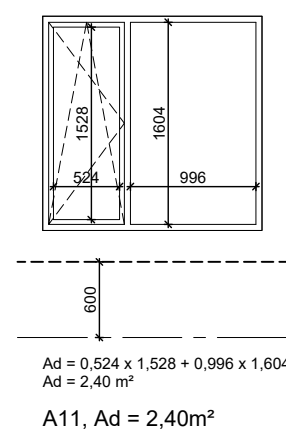
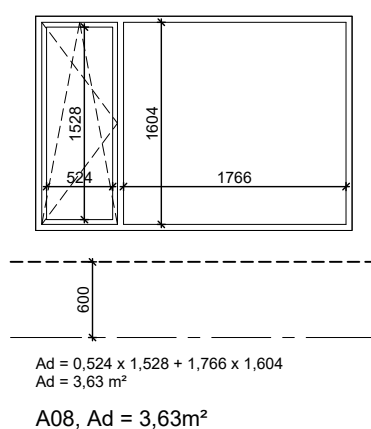
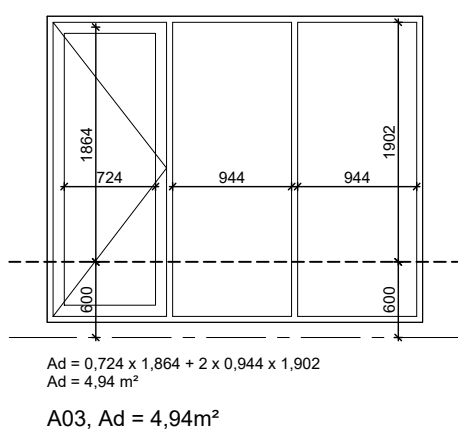
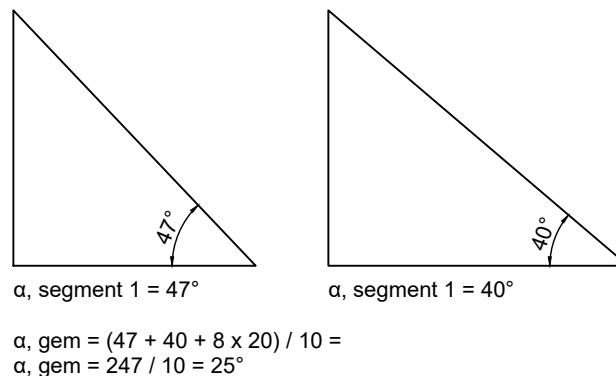
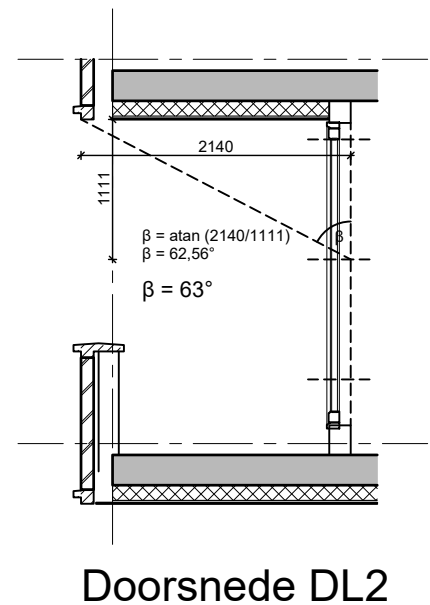
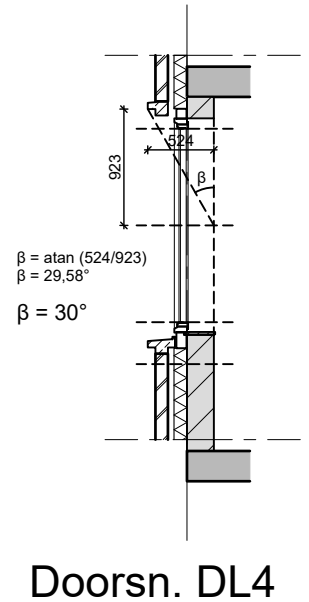
GO = 68,8 m2
VG min 55% GO, ==> 0,55 x 68,8 = 37,8 m2
VG,tot = 26,7 + 19,4 = 46,1 m2 ==> VOLDOET





App 08

3k-woning
GO = 74,0m2



Berekening app 08

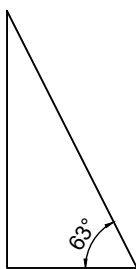
VG1 = 55,9 m2
Ae,tot = 1,80 + 1,80 + 1,96 + 2,72 = 8,28 m2
Ae,min = 10% x opp VG = 0,10 x 55,9 = 5,59
8,28 > 5,59 ==> VOLDOET

GO = 74,0 m2
VG min 55% GO, ==> 0,55 x 74,0 = 40,7 m2
VG,tot = 55,9 m2 ==> VOLDOET

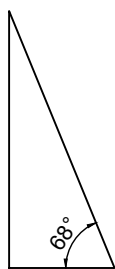
App 09

3k-woning

GO = 78,5m2

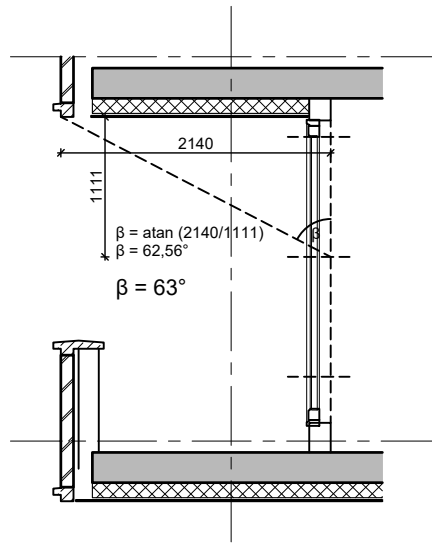


α , segm. 9 = 63°

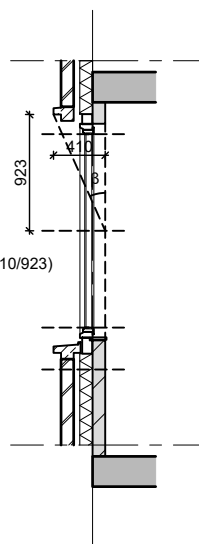


α , segm. 10 = 68°

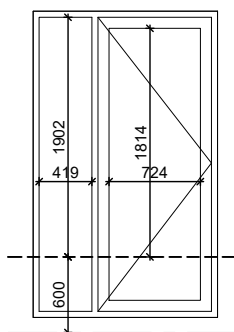
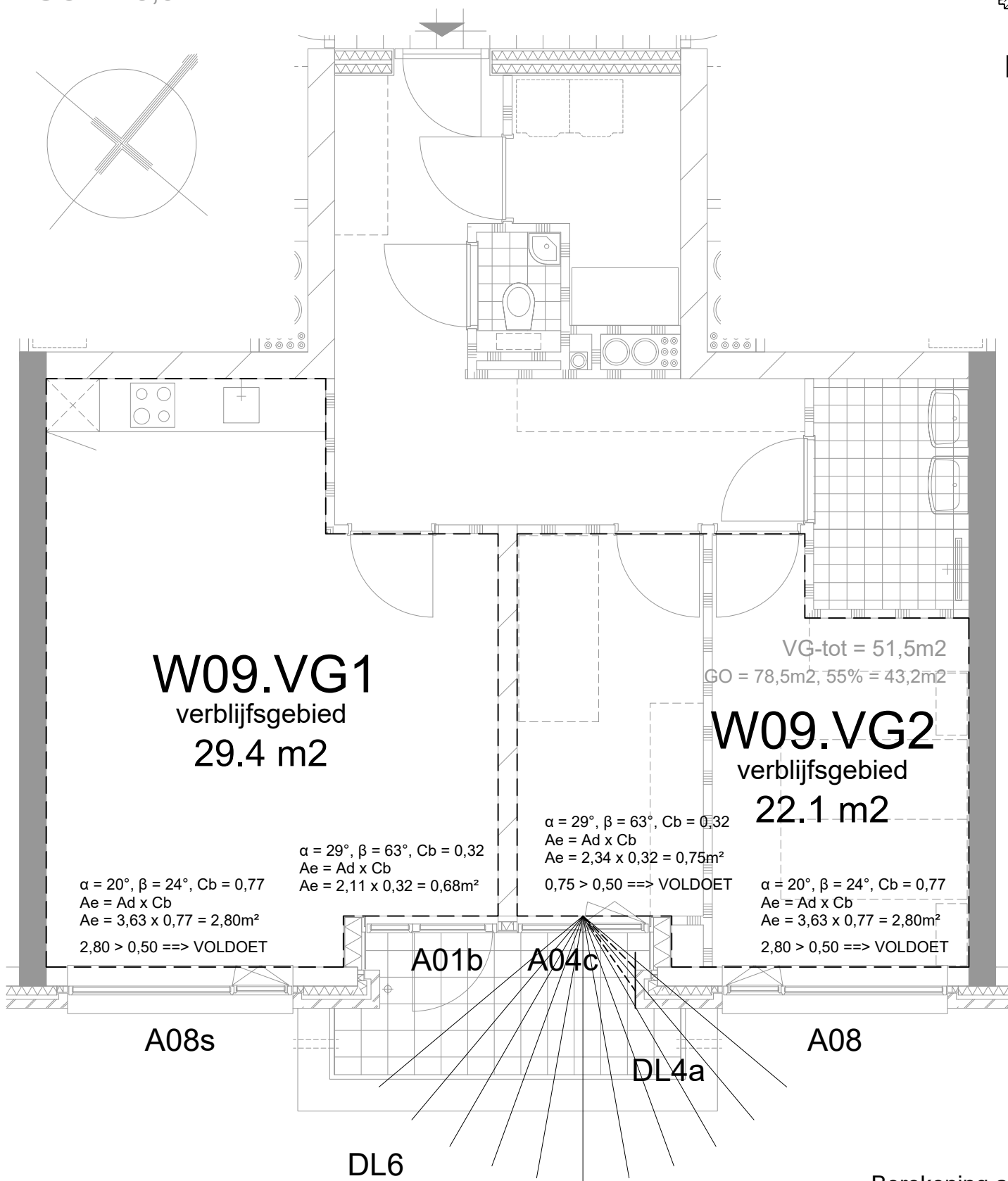
α , gem = $(63 + 68 + 8 \times 20) / 10 =$
 α , gem = $291 / 10 = 29^\circ$



Doorsnede DL6

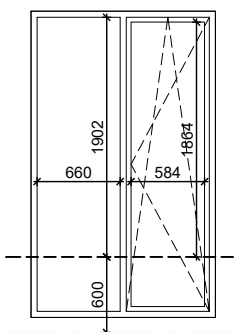


Doorsn. DL4a



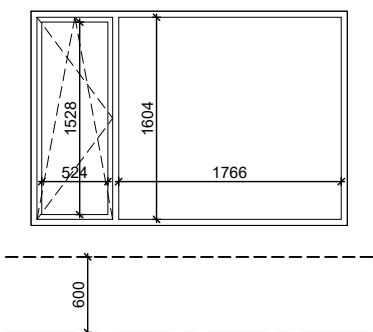
Ad = $0,419 \times 1,902 + 0,724 \times 1,814$
Ad = 2,11 m²

A01b, Ad = 2,11m²



Ad = $0,660 \times 1,902 + 0,584 \times 1,864$
Ad = 2,34 m²

A04d, Ad = 2,34m²



Ad = $0,524 \times 1,528 + 1,766 \times 1,604$
Ad = 3,63 m²

A08, Ad = 3,63m²

Berekening app 09

VG1 = 29,4 m2

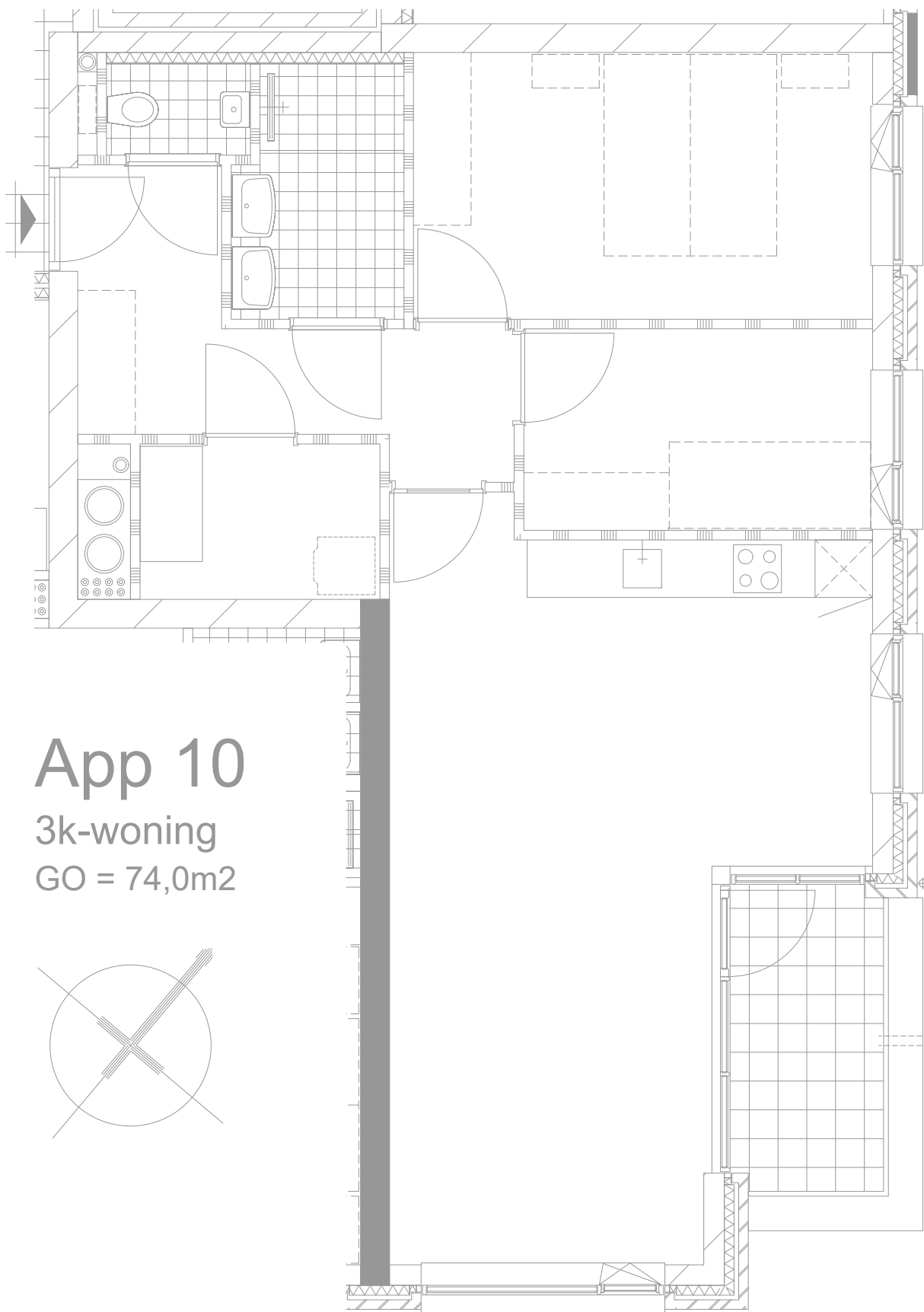
Ae,tot = 2,80 + 0,68 = 3,48 m2
Ae,min = 10% x opp VG = 0,10 x 29,4 = 2,94
3,48 > 2,94 ==> VOLDOET

VG2 = 22,1 m2

Ae,tot = 0,75 + 2,80 = 3,55 m2
Ae,min = 10% x opp VG = 0,10 x 22,1 = 2,21
3,55 m2 > 2,21 m2 ==> VOLDOET

GO = 78,5 m2

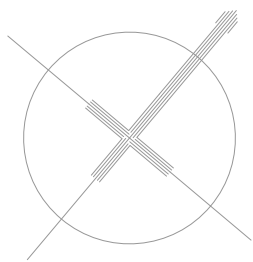
VG min 55% GO, ==> 0,55 x 78,5 = 43,2 m2
VG,tot = 29,4 + 22,1 = 51,5 m2 ==> VOLDOET



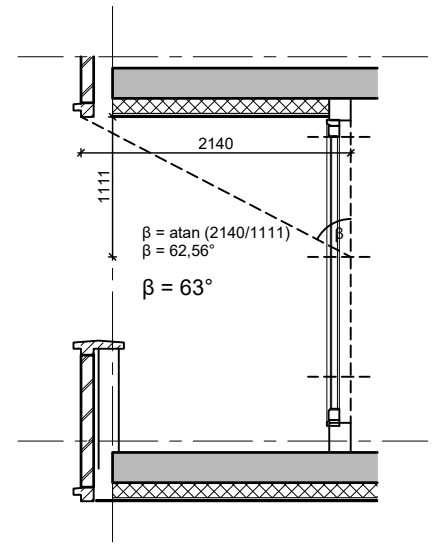
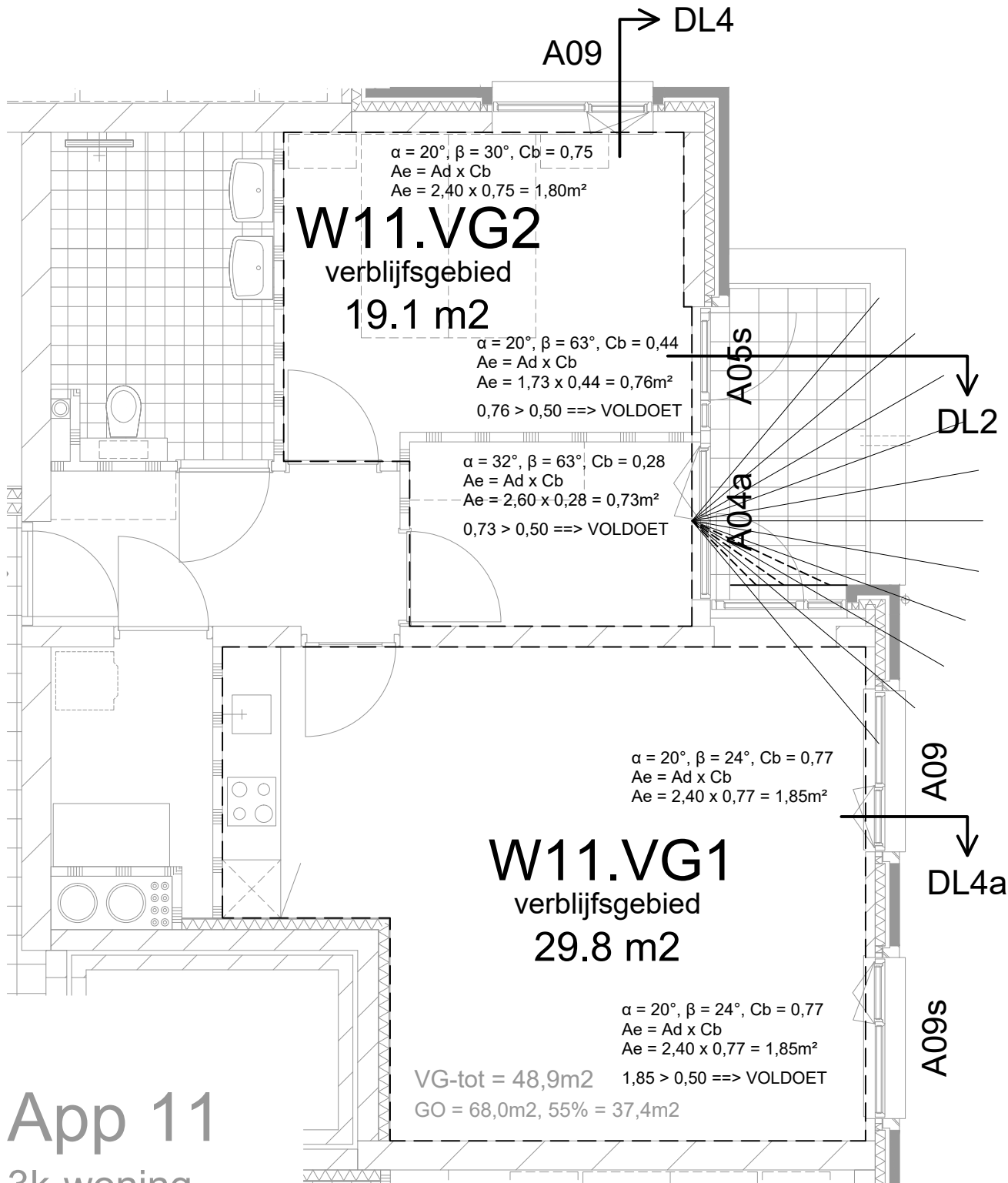
App 10

3k-woning

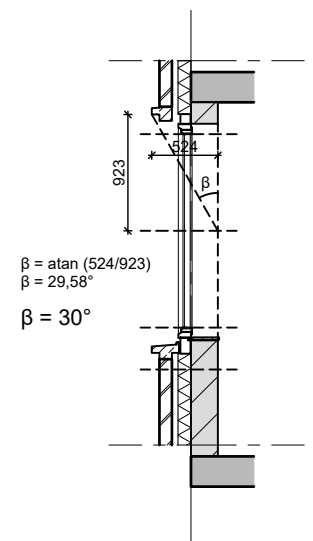
GO = 74,0m²



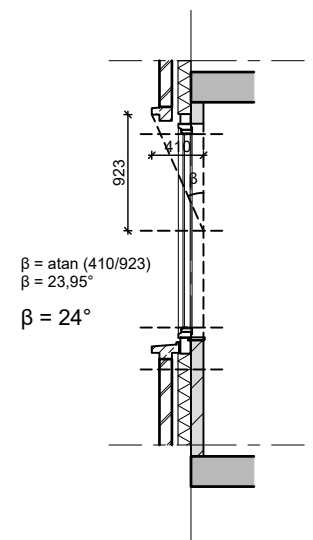
Zie app 08



Doorsnede DL2

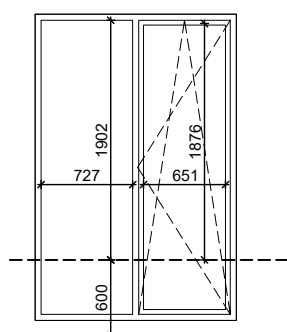
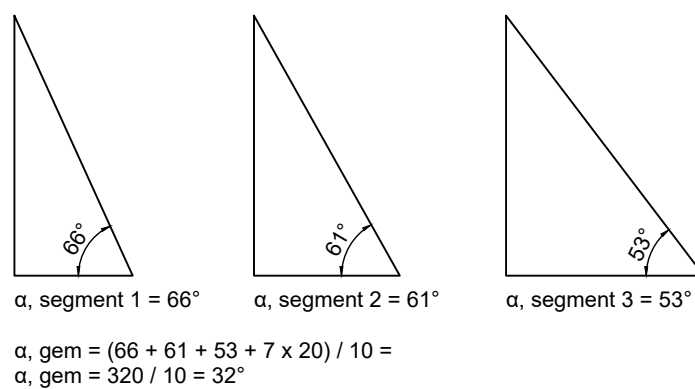
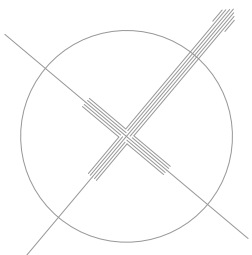


Doorsn. DL4

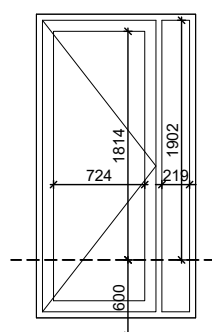


Doorsn. DL4a

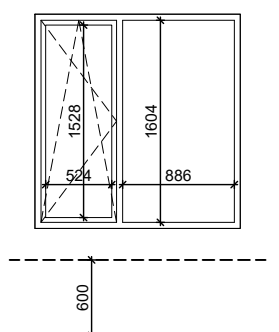
App 11
3k-woning
GO = 67,8m²



A04a, $A_d = 2,60\text{m}^2$



A01d, $A_d = 1,73\text{m}^2$



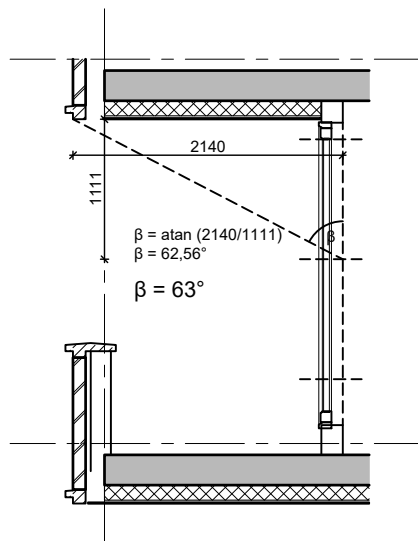
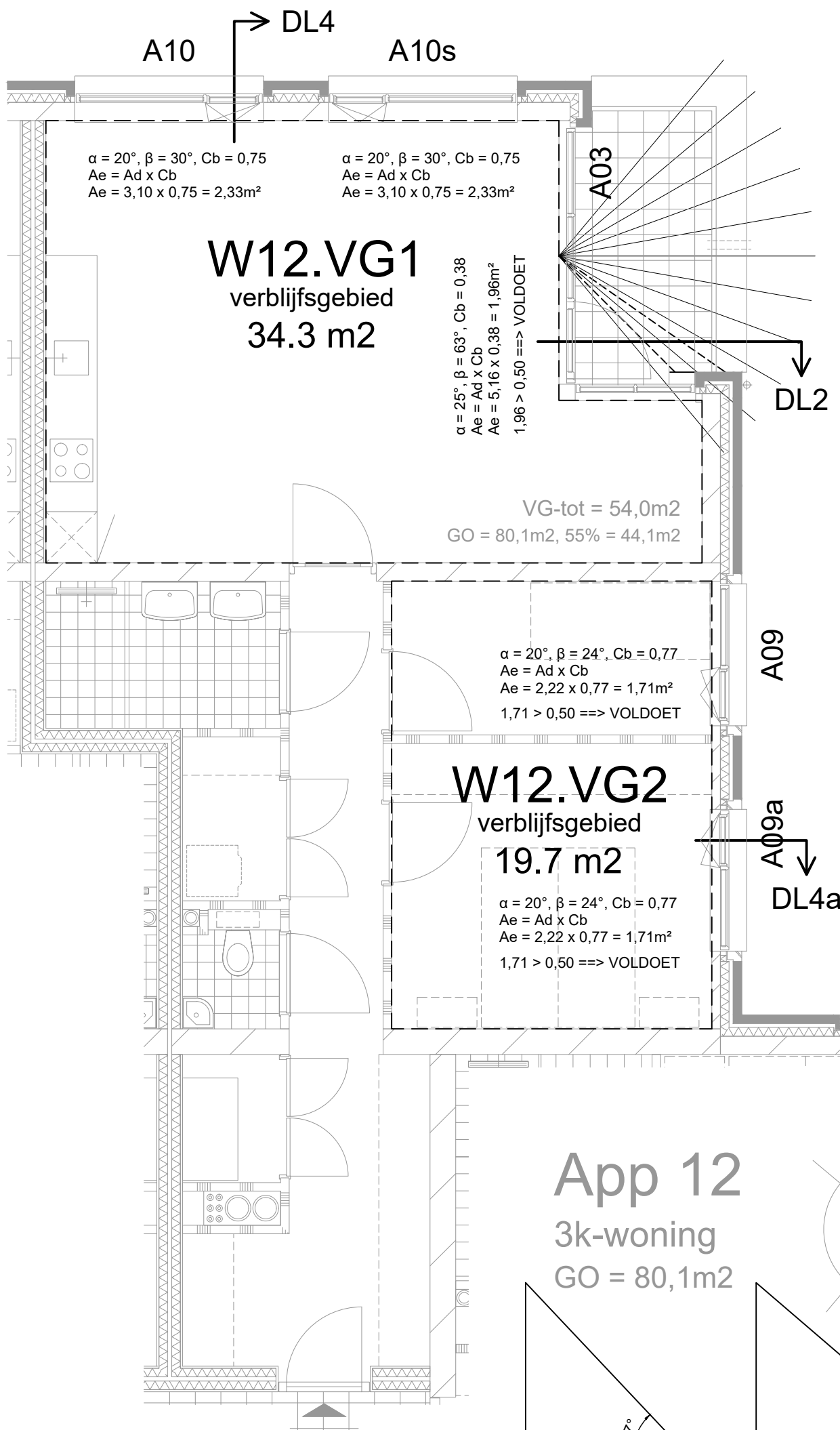
A09, $A_d = 2,22\text{m}^2$

Berekening app 11

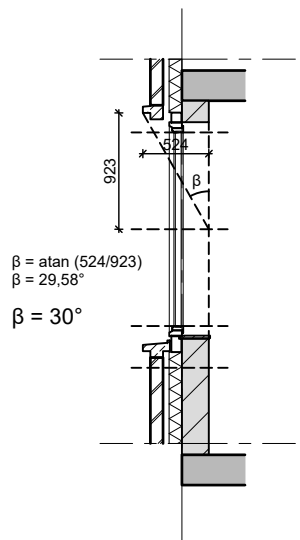
VG1 = 29,8 m²
 $A_{e,\text{tot}} = 1,85 + 1,85 = 3,70 \text{ m}^2$
 $A_{e,\text{min}} = 10\% \times \text{opp VG} = 0,10 \times 29,8 = 2,98$
 $3,70 > 2,98 \implies \text{VOLDOET}$

VG2 = 19,1 m²
 $A_{e,\text{tot}} = 0,73 + 0,76 + 1,80 = 3,29 \text{ m}^2$
 $A_{e,\text{min}} = 10\% \times \text{opp VG} = 0,10 \times 19,1 = 1,91$
 $3,29 \text{ m}^2 > 1,91 \text{ m}^2 \implies \text{VOLDOET}$

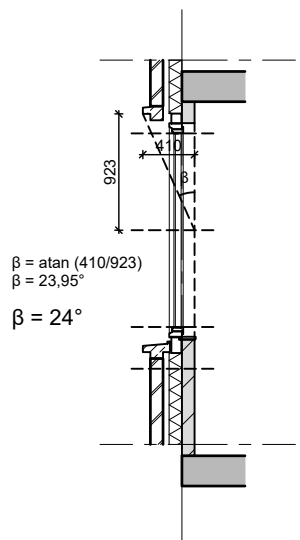
GO = 68,0 m²
VG min 55% GO, $\implies 0,55 \times 68,0 = 37,4 \text{ m}^2$
VG,tot = 29,8 + 19,1 = 48,9 m² $\implies$ VOLDOET



Doorsnede DL2

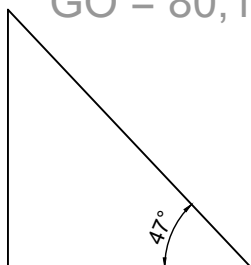


Doorsn. DL4

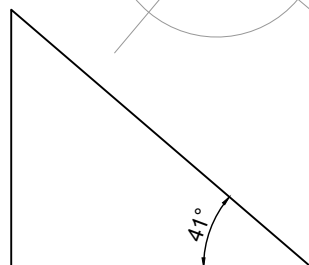


Doorsn. DL4a

App 12
3k-woning
GO = 80,1m2



α , segm. 1 = 47°



α , segm. 2 = 41°

α , gem = $(47 + 41 + 8 \times 20) / 10 =$
 α , gem = 248 / 10 = 25°

Berekening app 12

VG1 = 34,3 m2

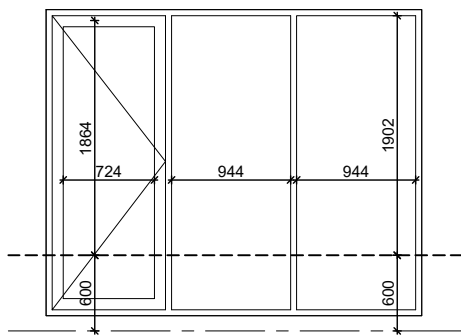
$Ae_{tot} = 2,33 + 2,33 + 1,96 = 6,62 \text{ m2}$
 $Ae_{min} = 10\% \times opp \text{ VG} = 0,10 \times 34,3 = 3,43$
 $6,62 > 3,43 \Rightarrow \text{VOLDOET}$

VG2 = 19,7 m2

$Ae_{tot} = 1,71 + 1,71 = 3,42 \text{ m2}$
 $Ae_{min} = 10\% \times opp \text{ VG} = 0,10 \times 19,7 = 1,97$
 $3,42 \text{ m2} > 1,97 \text{ m2} \Rightarrow \text{VOLDOET}$

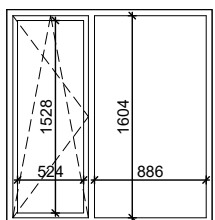
GO = 80,1 m2

$VG \text{ min } 55\% \text{ GO} \Rightarrow 0,55 \times 80,1 = 44,1 \text{ m2}$
 $VG_{tot} = 34,3 + 19,7 = 54,0 \text{ m2} \Rightarrow \text{VOLDOET}$



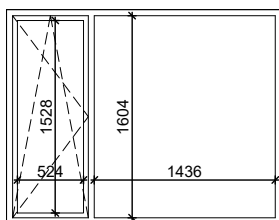
$Ad = 0,724 \times 1,864 + 2 \times 0,944 \times 1,902$
 $Ad = 4,94 \text{ m}^2$

A03, Ad = 4,94m²



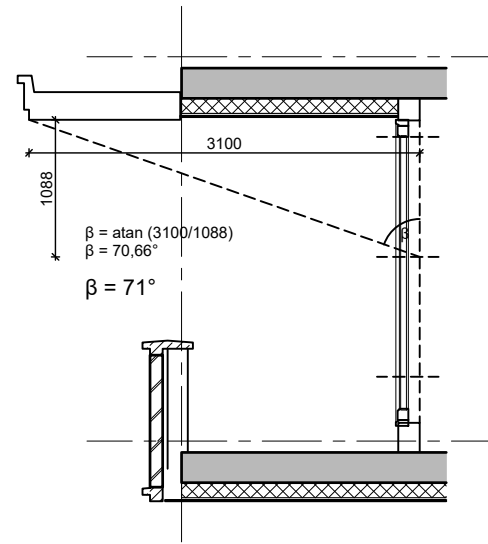
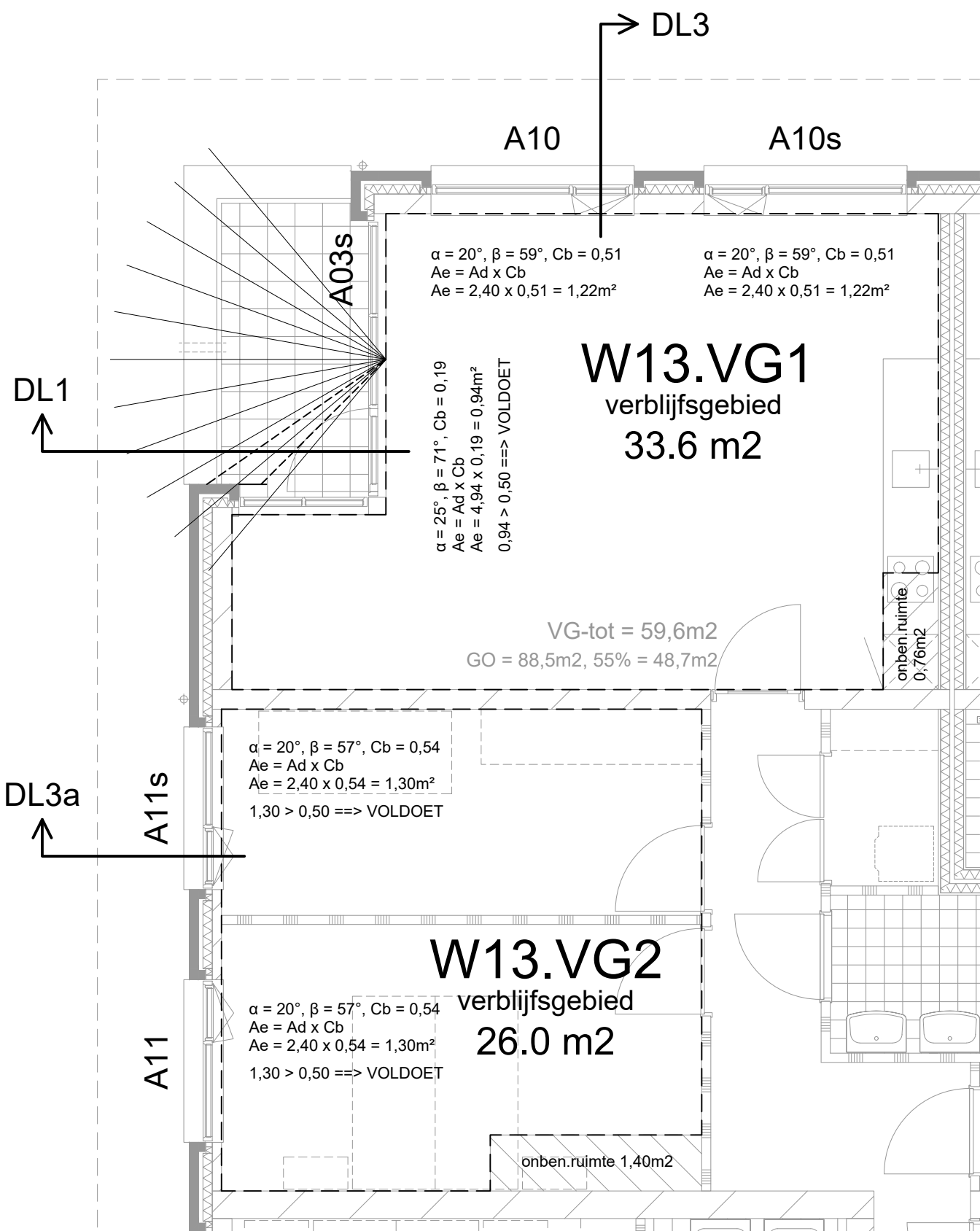
$Ad = 0,524 \times 1,528 + 0,886 \times 1,604$
 $Ad = 2,40 \text{ m}^2$

A09, Ad = 2,22m²

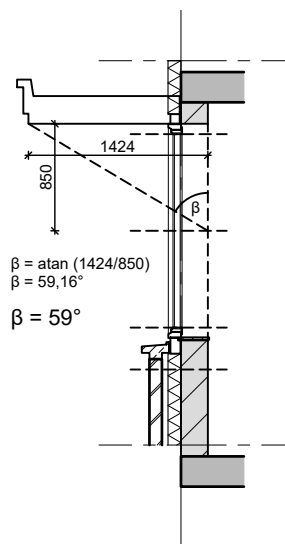


$Ad = 0,524 \times 1,528 + 1,436 \times 1,604$
 $Ad = 3,10 \text{ m}^2$

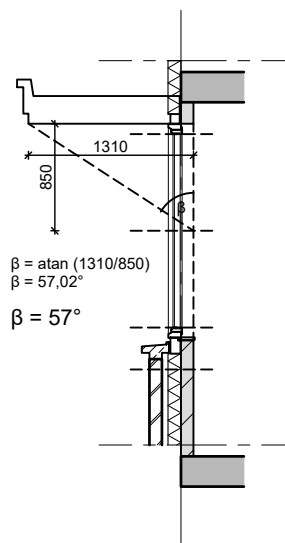
A10, Ad = 3,10m²



Doorsnede DL1

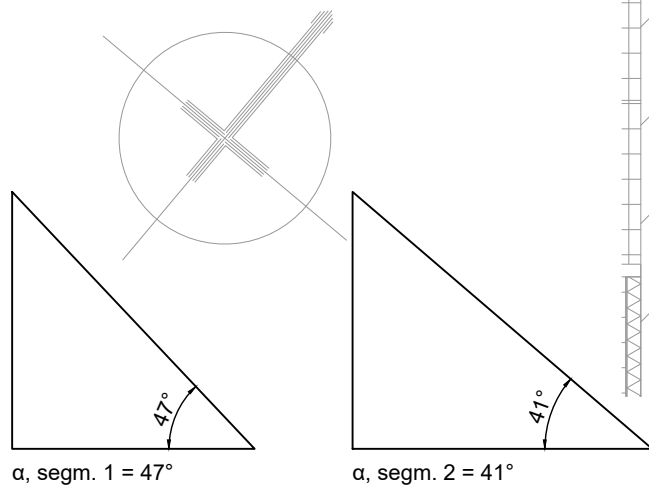


Doorsn. DL3

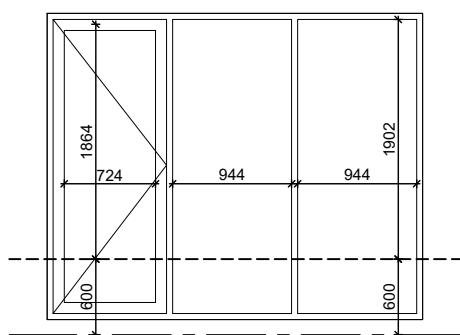


Doorsn. DL3a

App 13
3k-woning
GO = 88,5m2

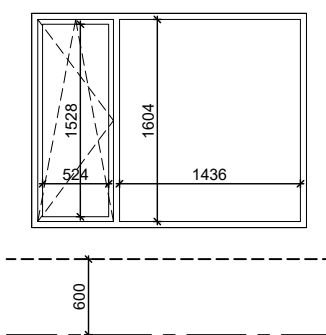


$$\alpha, \text{ gem} = (47 + 41 + 8 \times 20) / 10 = 25^\circ$$



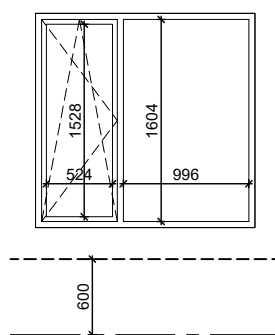
$$Ad = 0,724 \times 1,864 + 2 \times 0,944 \times 1,902$$
$$Ad = 4,94 \text{ m}^2$$

A03, Ad = 4,94m²



$$Ad = 0,524 \times 1,528 + 1,436 \times 1,604$$
$$Ad = 3,10 \text{ m}^2$$

A10, Ad = 3,10m²



$$Ad = 0,524 \times 1,528 + 0,996 \times 1,604$$
$$Ad = 2,40 \text{ m}^2$$

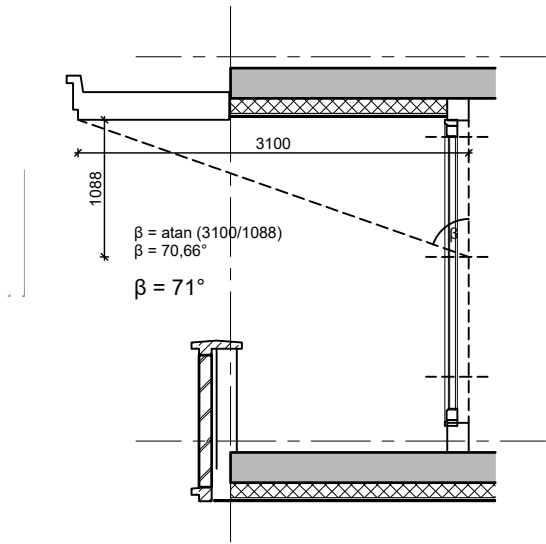
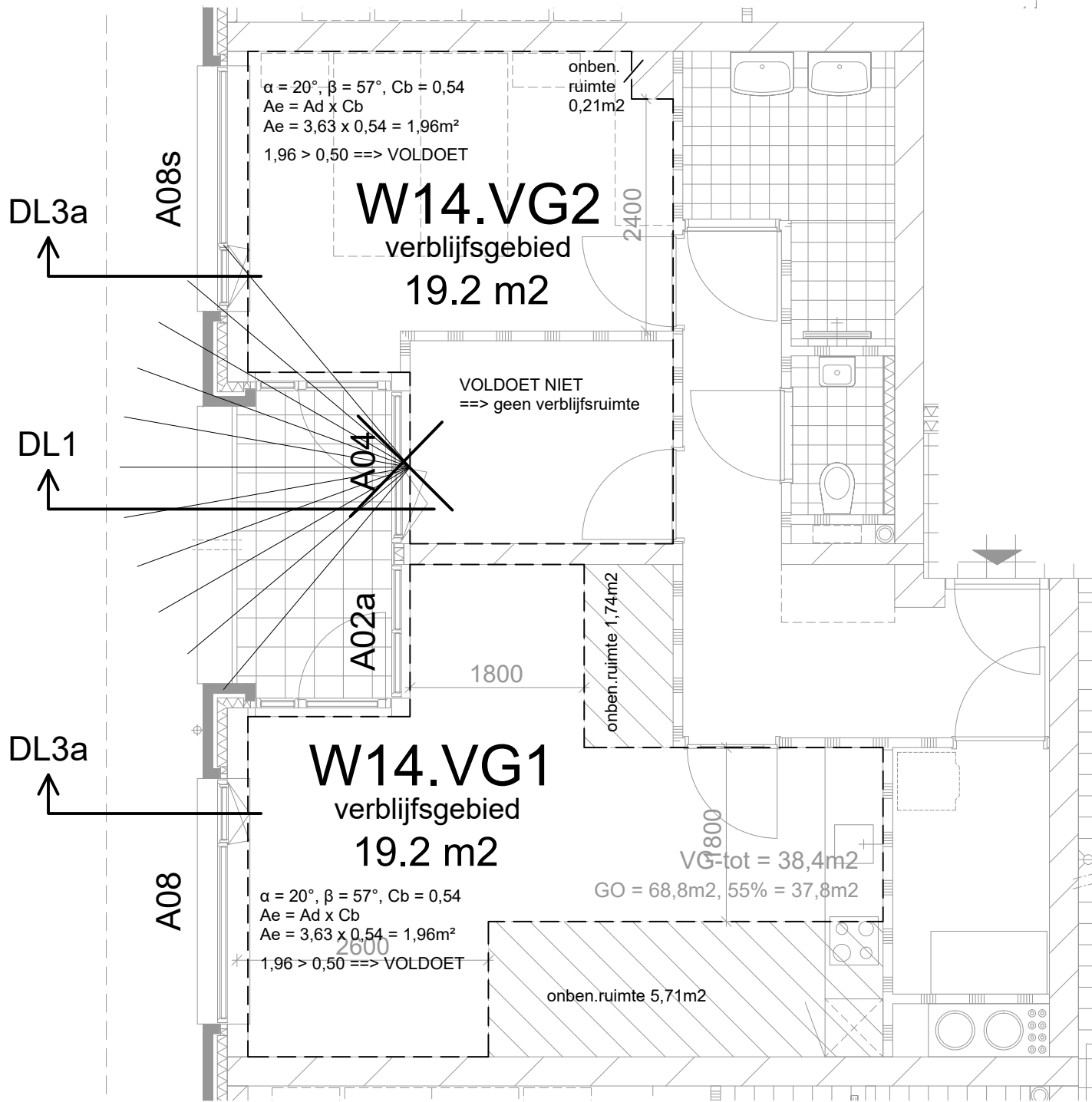
A11, Ad = 2,40m²

Berekening app 13

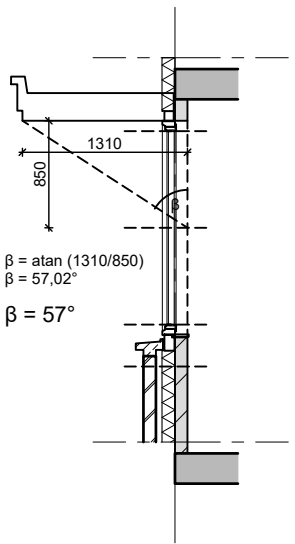
VG1 = 33,6m2
Ae,tot = 1,22 + 1,22 + 0,94 = 3,38 m2
Ae,min = 10% x opp VG, 0,10 x 33,6 = 3,36
3,38 > 3,36 ==> VOLDOET

VG2 = 26,0m2
Ae,tot = 1,30 + 1,30 = 2,60 m2
Ae,min = 10% x opp VG, 0,10 x 26,0 = 2,60
2,60 ≥ 2,60 ==> VOLDOET

GO = 88,5 m2
VG min 55% GO, ==> 0,55 x 88,5 = 48,7 m2
VG,tot = 33,6 + 26,0 = 59,6 m2 ==> VOLDOET



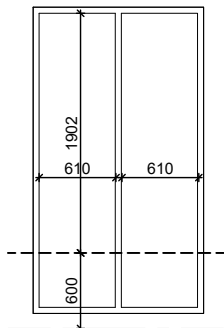
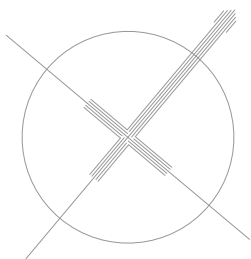
Doorsnede DL1



Doorsn. DL3a

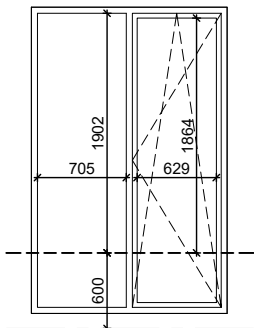
App 14

2k-woning
GO = 68,8m²



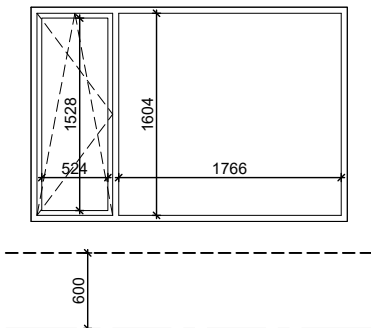
Ad = 0,610 x 1,902 + 0,610 x 1,902
Ad = 2,32 m²

A02a, Ad = 2,32m²



Ad = 0,705 x 1,902 + 0,629 x 1,864
Ad = 2,51 m²

A04, Ad = 2,51m²



Ad = 0,524 x 1,528 + 1,766 x 1,604
Ad = 3,63 m²

A08, Ad = 3,63m²

Berekening app 14

VG1 = 19,2m²

Ae,tot = 1,96 m²

Ae,min = 10% x opp VG, 0,10 x 19,2 = 1,92
1,96 > 1,92 ==> VOLDOET

VG2 = 19,2m²

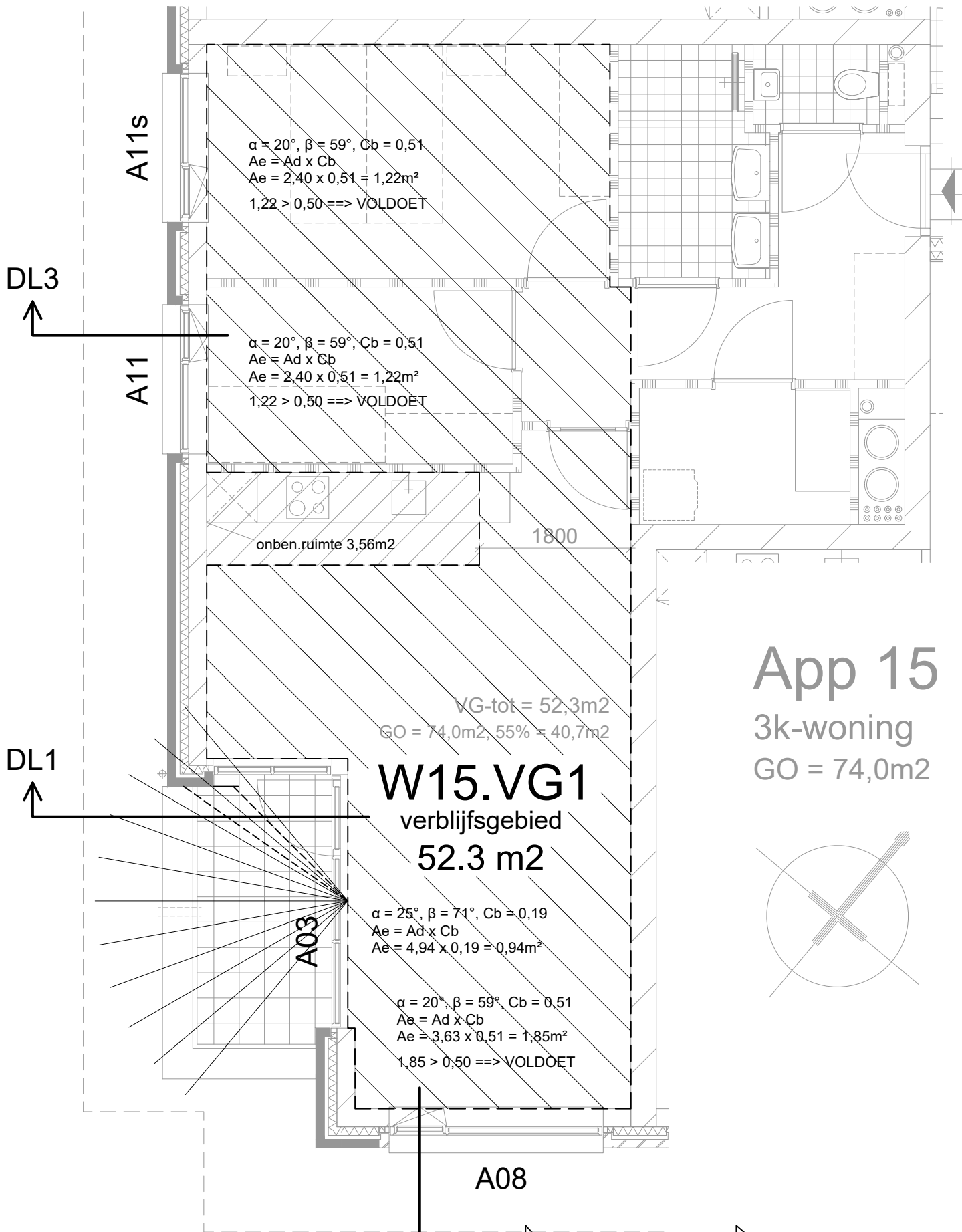
Ae,tot = 1,96 m²

Ae,min = 10% x opp VG, 0,10 x 19,2 = 1,92
1,96 > 1,92 ==> VOLDOET

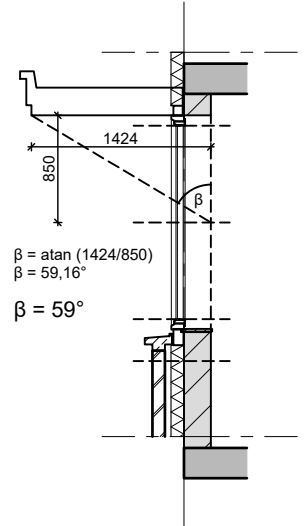
GO = 68,8 m²

VG min 55% GO, ==> 0,55 x 68,8 = 37,8 m²

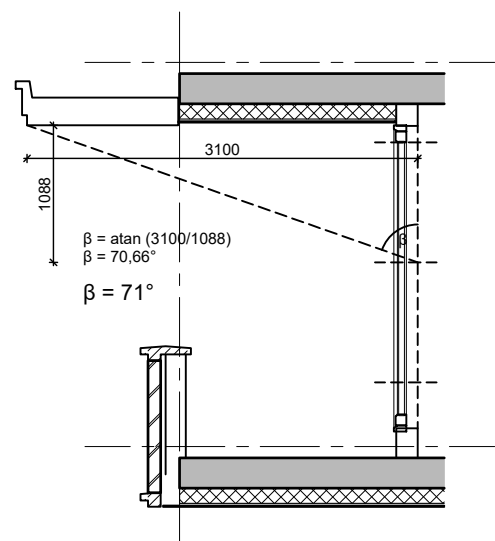
VG,tot = 19,2 + 19,2 = 38,4 m² ==> VOLDOET



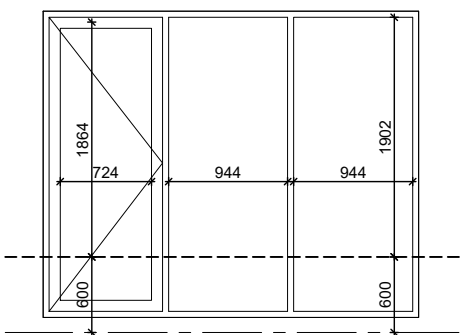
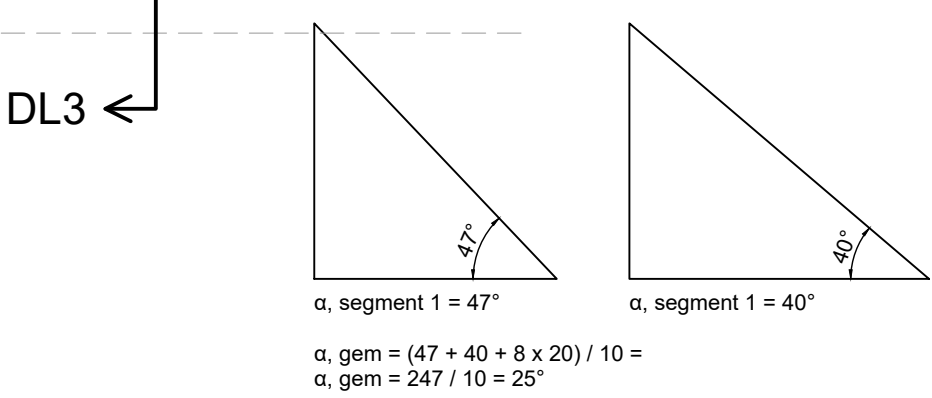
App 15
3k-woning
GO = 74,0m2



Doorsn. DL3

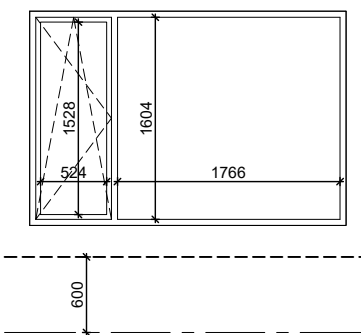


Doorsnede DL1



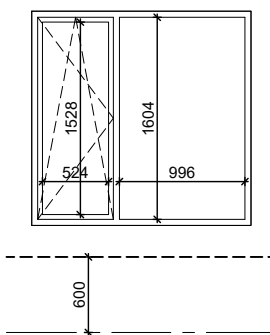
Ad = 0,724 x 1,864 + 2 x 0,944 x 1,902
Ad = 4,94 m²

A03, Ad = 4,94m²



Ad = 0,524 x 1,528 + 1,766 x 1,604
Ad = 3,63 m²

A08, Ad = 3,63m²



Ad = 0,524 x 1,528 + 0,996 x 1,604
Ad = 2,40 m²

A11, Ad = 2,40m²

Berekening app 15

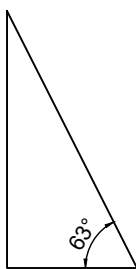
VG1 = 52,3m2
Ae,tot = 1,22 + 1,22 + 0,94 + 1,85 = 5,23 m2
Ae,min = 10% x opp VG, 0,10 x 52,3 = 5,23
5,23 ≥ 5,23 ==> VOLDOET

GO = 74,0 m2
VG min 55% GO, ==> 0,55 x 74,0 = 40,7 m2
VG,tot = 52,3 m2 ==> VOLDOET

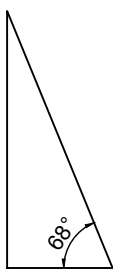
App 16

3k-woning

GO = 78,5m2

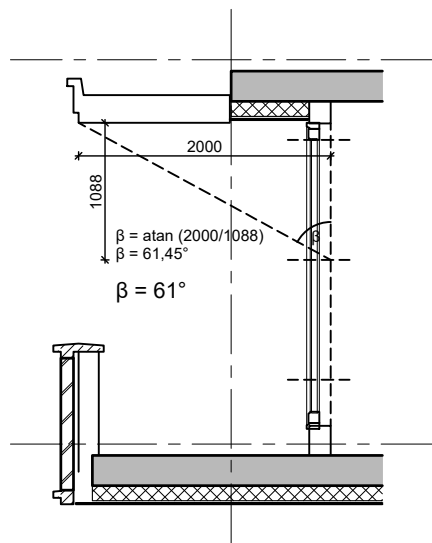


α , segm. 9 = 63°

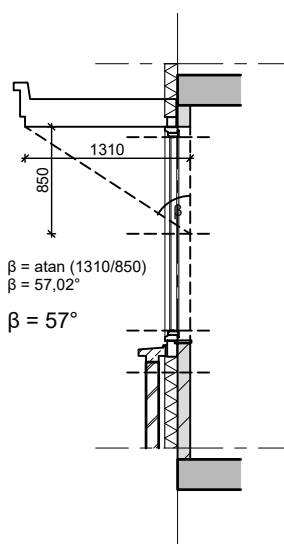


α , segm. 10 = 68°

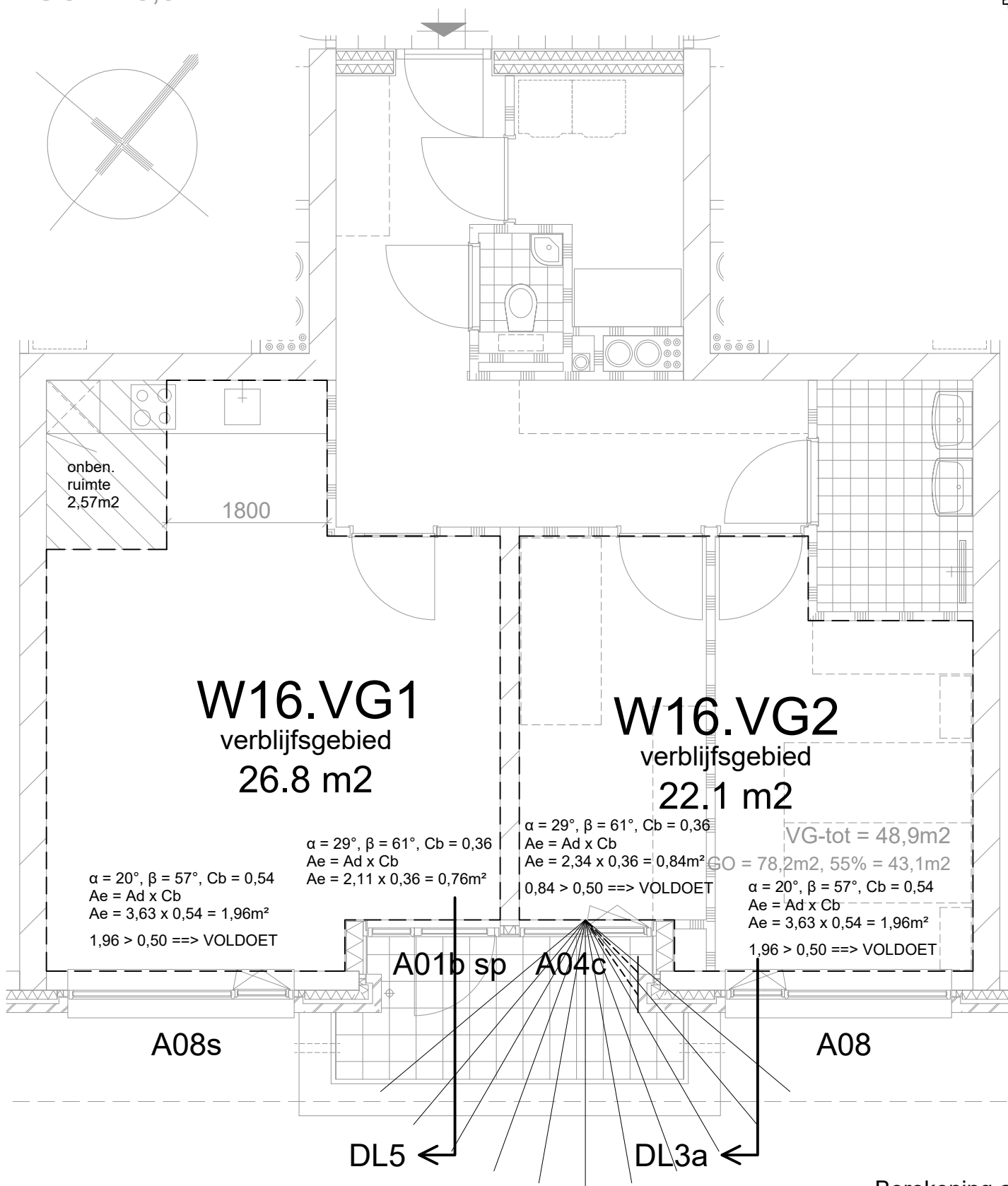
α , gem = $(63 + 68 + 8 \times 20) / 10 =$
 α , gem = $291 / 10 = 29^\circ$



Doorsnede DL5



Doorsn. DL3a



Berekening app 16

VG1 = 26,8m2

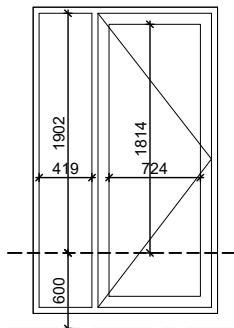
$Ae_{tot} = 1,96 + 0,76 = 2,72 \text{ m2}$
 $Ae_{min} = 10\% \times \text{opp VG}, 0,10 \times 26,8 = 2,68$
 $2,72 \geq 2,68 \implies \text{VOLDOET}$

VG2 = 22,1m2

$Ae_{tot} = 0,79 + 1,96 = 2,75 \text{ m2}$
 $Ae_{min} = 10\% \times \text{opp VG}, 10\% \times 22,1 = 2,21 \text{ m2}$
 $2,75 \text{ m2} > 2,21 \text{ m2} \implies \text{VOLDOET}$

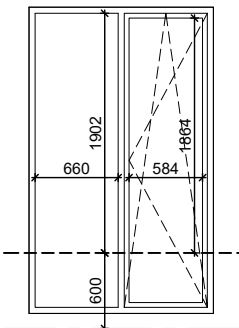
GO = 78,2 m2

VG min 55% GO, $\implies 0,55 \times 78,2 = 43,1 \text{ m2}$
VG,tot = 26,8 + 22,1 = 48,9 m2 $\implies \text{VOLDOET}$



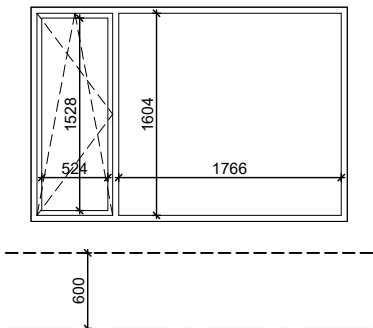
$Ad = 0,419 \times 1,902 + 0,724 \times 1,814$
 $Ad = 2,11 \text{ m}^2$

A01b, Ad = 2,11m²



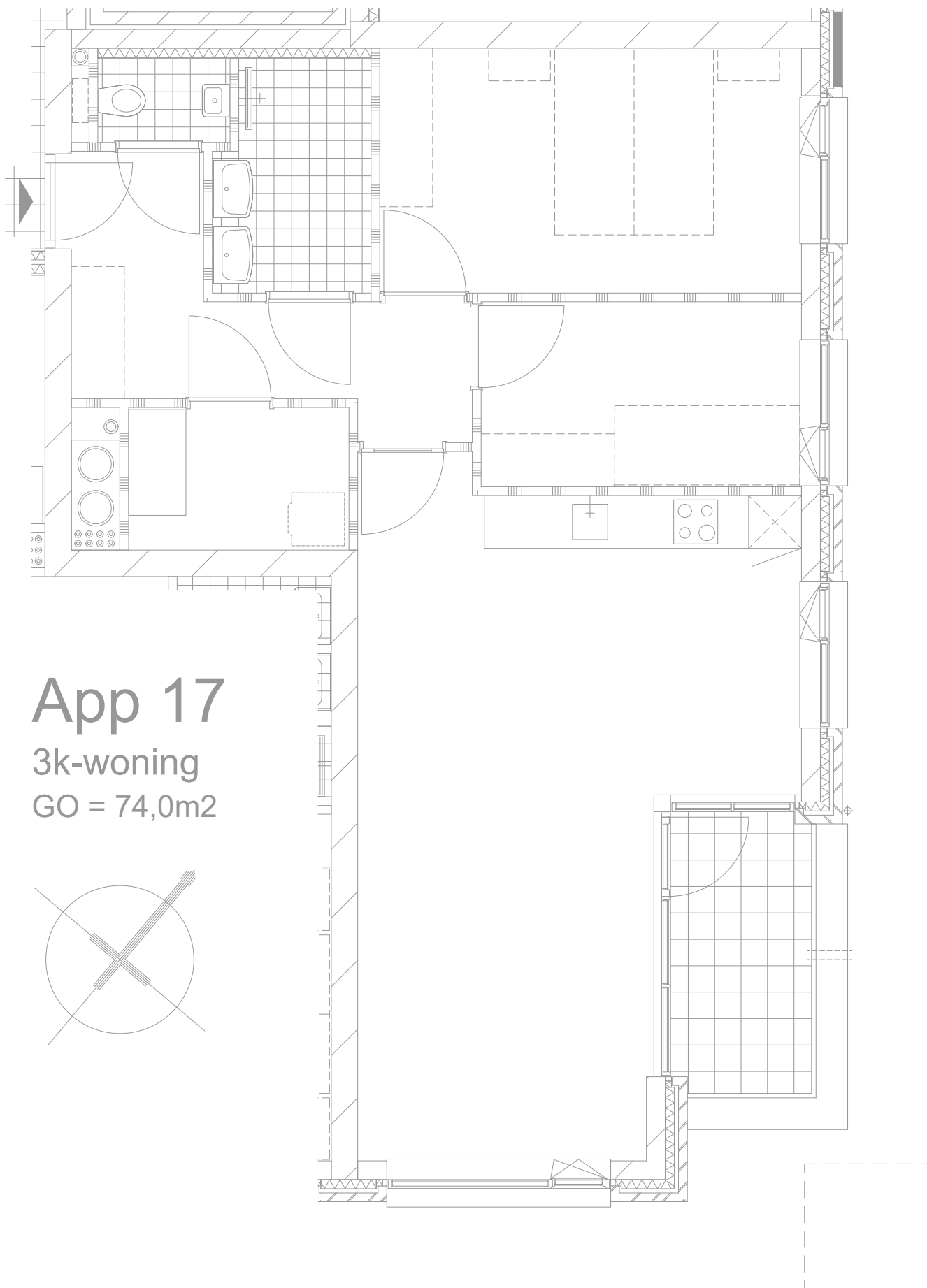
$Ad = 0,660 \times 1,902 + 0,584 \times 1,864$
 $Ad = 2,34 \text{ m}^2$

A04d, Ad = 2,34m²

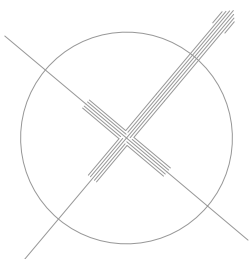


$Ad = 0,524 \times 1,528 + 1,766 \times 1,604$
 $Ad = 3,63 \text{ m}^2$

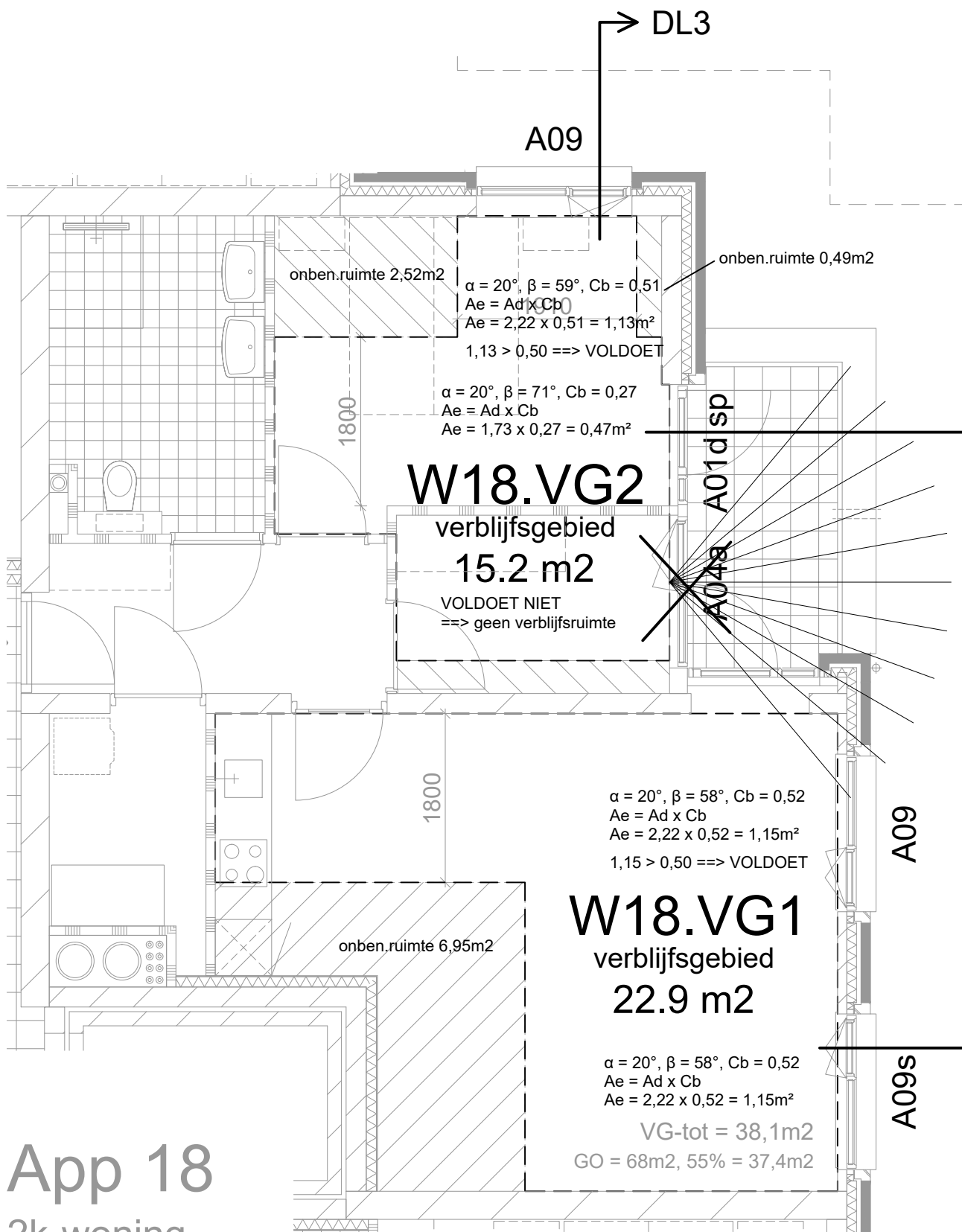
A08, Ad = 3,63m²



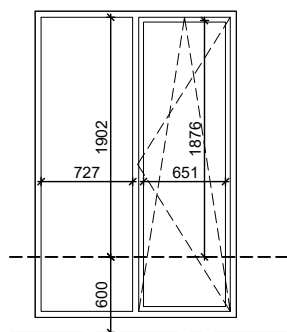
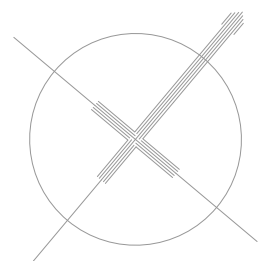
App 17
3k-woning
GO = 74,0m²



Zie app 15

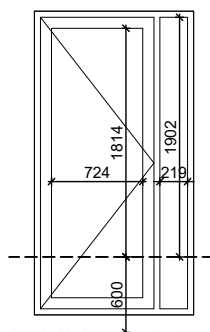


App 18
2k-woning
GO = 67,8m2



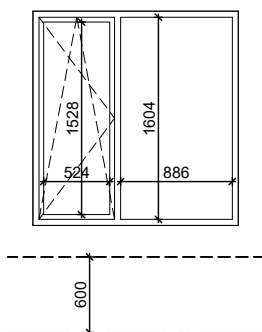
Ad = 0,727 x 1,902 + 0,651 x 1,876
Ad = 2,60 m²

A04a, Ad = 2,60m²



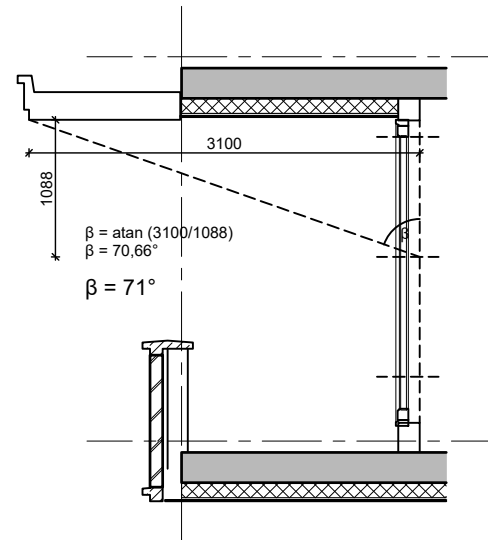
Ad = 0,724 x 1,814 + 0,219 x 1,902
Ad = 1,73 m²

A01d, Ad = 1,73m²

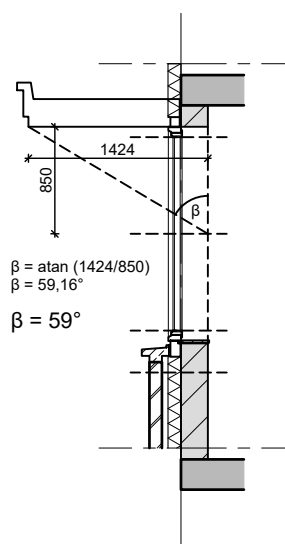


Ad = 0,524 x 1,528 + 0,886 x 1,604
Ad = 2,40 m²

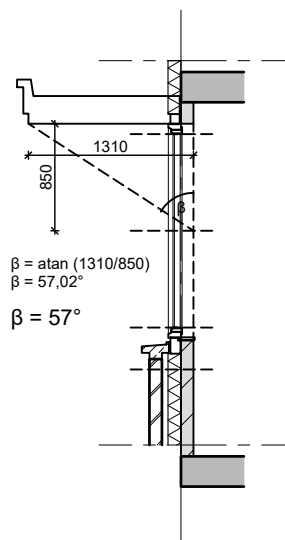
A09, Ad = 2,22m²



Doorsnede DL1



Doorsn. DL3



Doorsn. DL3a

Berekening app 18

VG1 = 22,9m2

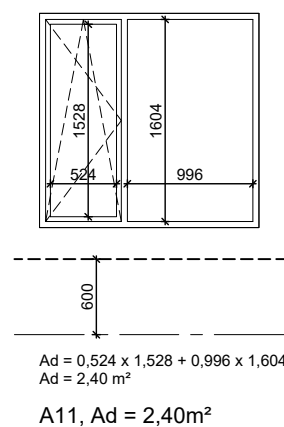
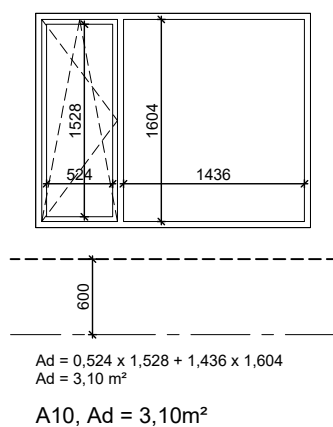
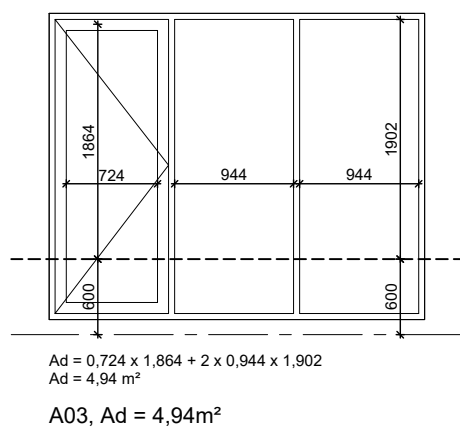
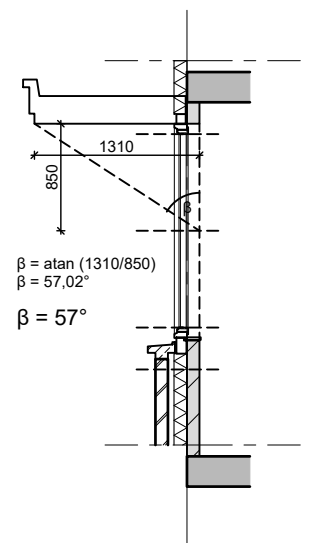
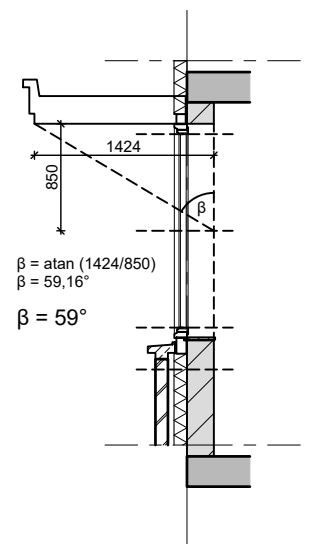
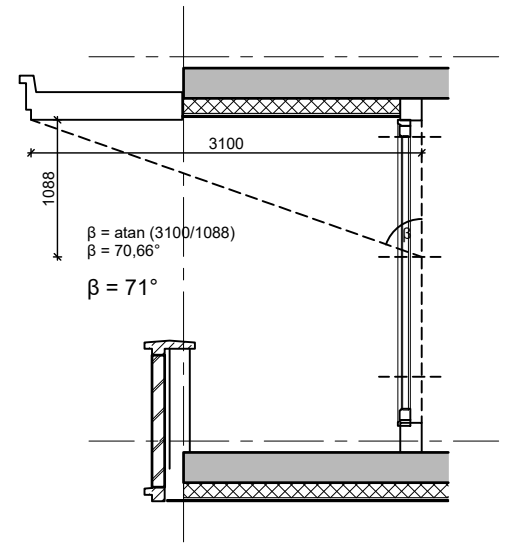
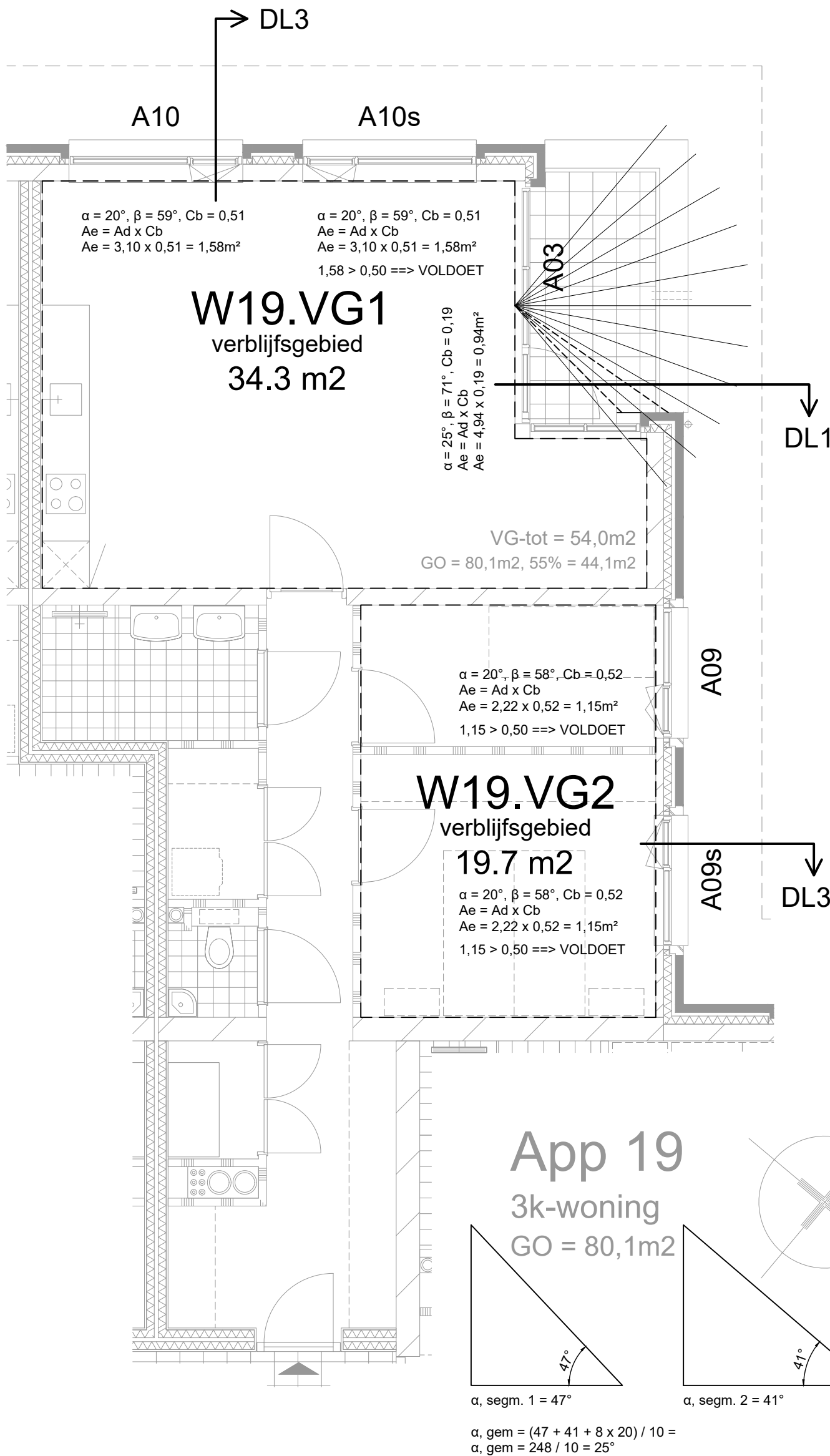
Ae,tot = 1,15 + 1,15 = 2,30 m2
Ae,min = 10% x opp VG, 0,10 x 22,9 = 2,29
2,30 ≥ 2,29 ==> VOLDOET

VG2 = 15,2m2

Ae,tot = 0,47 + 1,13 = 1,60 m2
Ae,min = 10% x opp VG, 0,10 x 15,2 = 1,52
1,60 > 1,52 ==> VOLDOET

GO = 68,0 m2

VG min 55% GO, ==> 0,55 x 68,0 = 37,4 m2
VG,tot = 22,9 + 15,2 = 38,1 m2 ==> VOLDOET

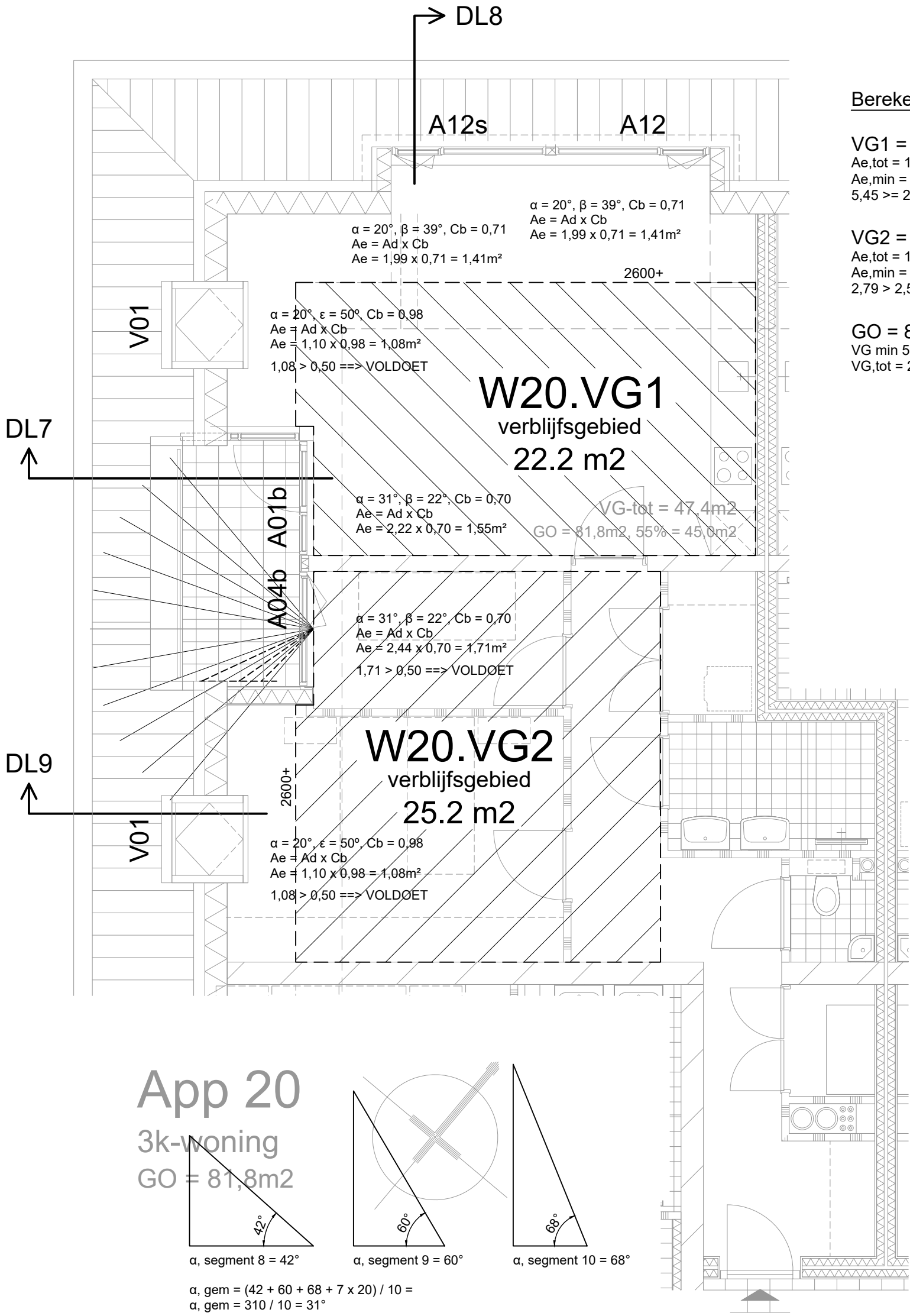


Berekening app 19

VG1 = 34,3m2
 $A_{e,\text{tot}} = 1,58 + 1,58 + 0,94 = 4,10\text{ m}^2$
 $A_{e,\text{min}} = 10\% \times \text{opp VG}, 0,10 \times 34,3 = 3,43$
 $4,10 > 3,43 \Rightarrow \text{VOLDOET}$

VG2 = 19,7m2
 $A_{e,\text{tot}} = 1,15 + 1,15 = 2,30\text{ m}^2$
 $A_{e,\text{min}} = 10\% \times \text{opp VG}, 0,10 \times 19,7 = 1,97$
 $2,30 > 1,97 \Rightarrow \text{VOLDOET}$

GO = 80,1 m2
VG min 55% GO, $\Rightarrow 0,55 \times 80,1 = 44,1\text{ m}^2$
VG,tot = 34,3 + 19,7 = 54,0 m2 $\Rightarrow \text{VOLDOET}$

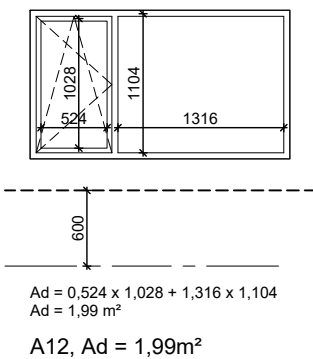
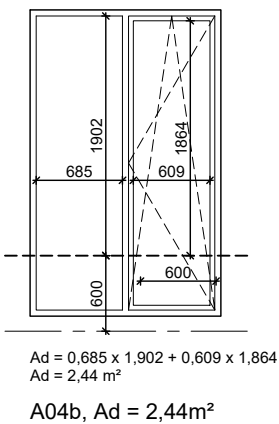
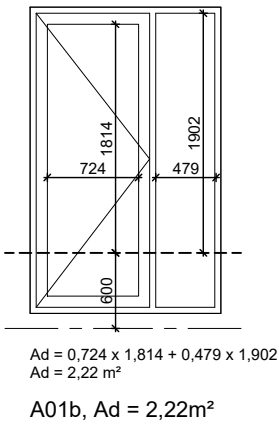


Berekening app 20

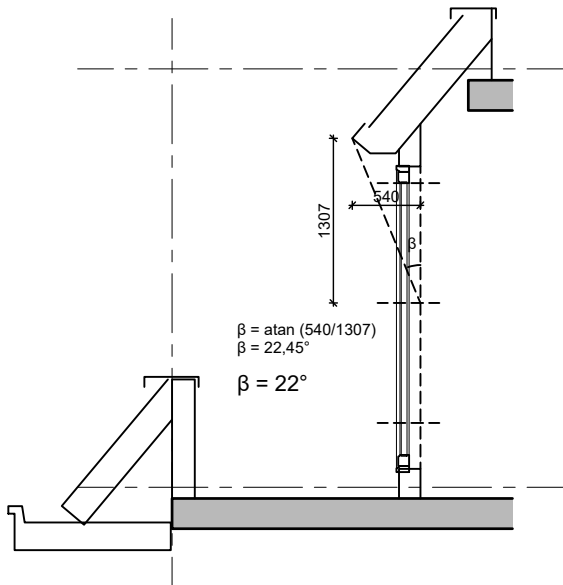
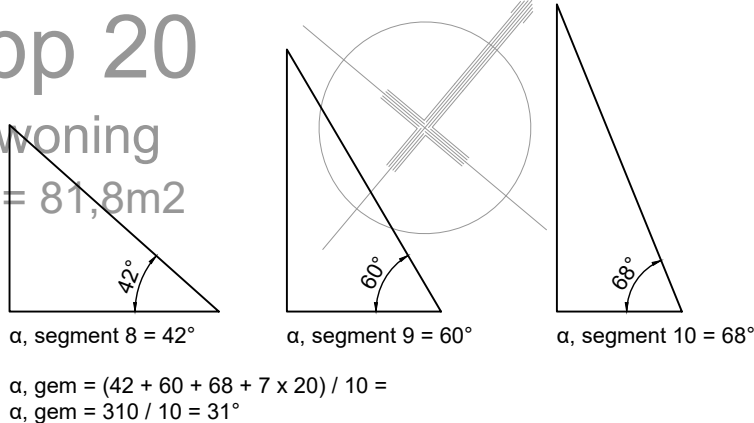
VG1 = 22,2 m2
Ae,tot = 1,55 + 1,08 + 2x 1,41 = 5,45 m2
Ae,min = 10% x opp VG, 0,10 x 22,2 = 2,22
5,45 >= 2,22 ==> VOLDOET

VG2 = 25,2 m2
Ae,tot = 1,08 + 1,71 = 2,79 m2
Ae,min = 10% x opp VG, 0,10 x 25,2 = 2,52
2,79 > 2,52 ==> VOLDOET

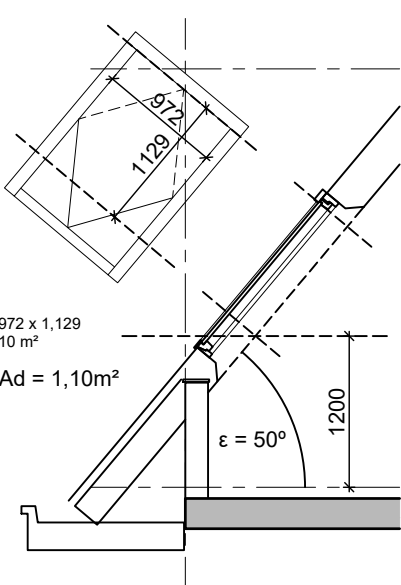
GO = 81,8 m2
VG min 55% GO, ==> 0,55 x 81,8 = 45,0 m2
VG,tot = 22,2 + 25,2 = 47,4 m2 ==> VOLDOET



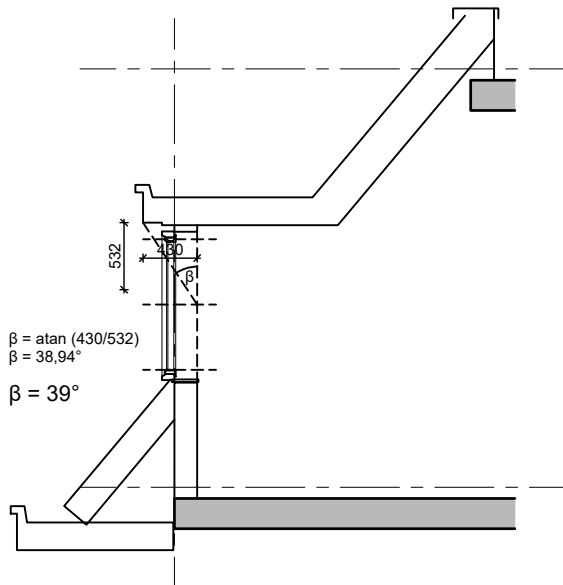
App 20
3k-woning
GO = 81,8m2



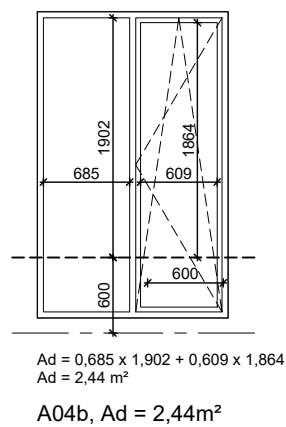
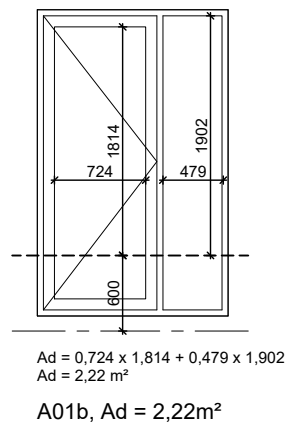
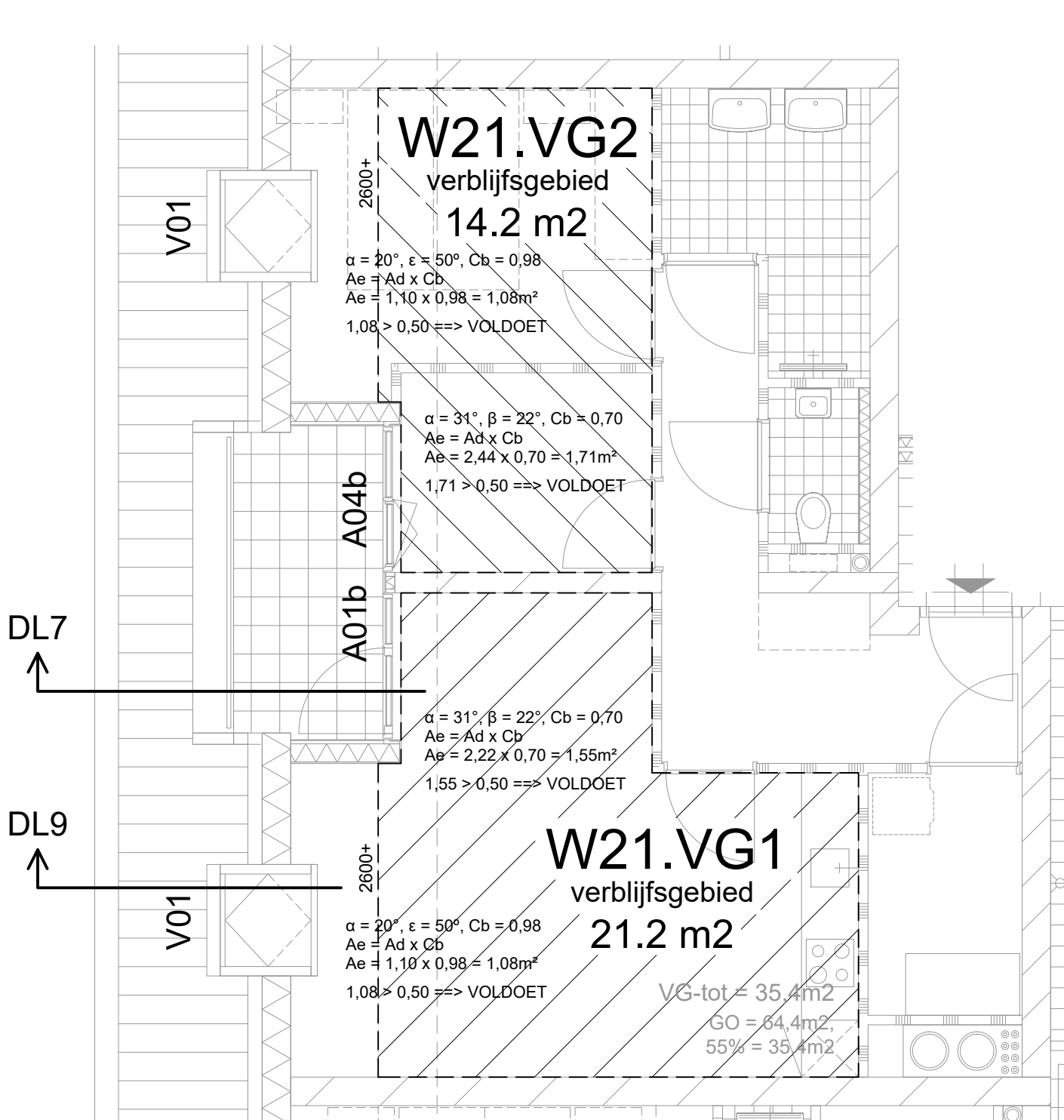
Doorsnede DL7



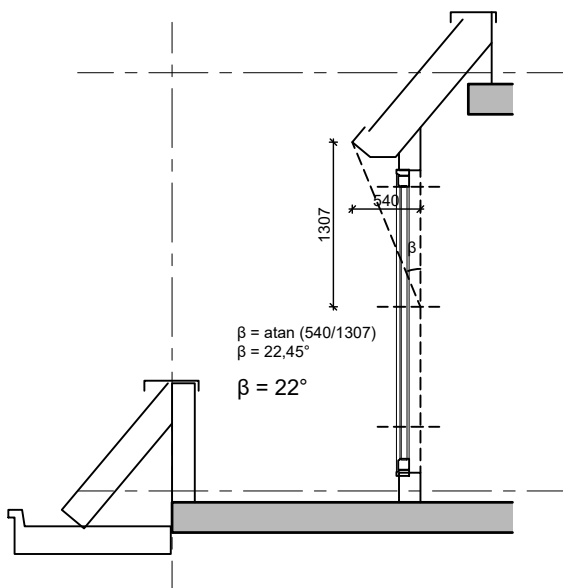
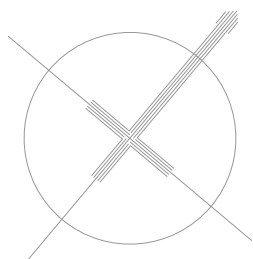
Doorsnede DL9



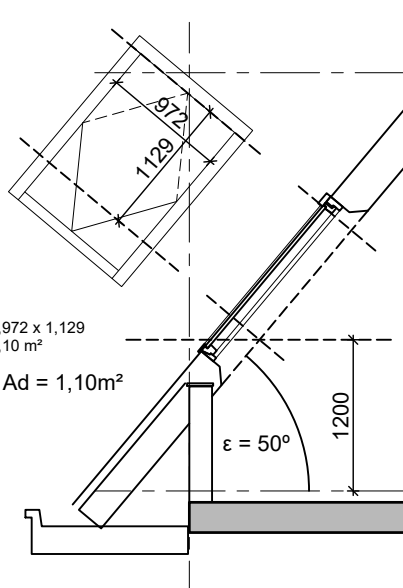
Doorsnede DL8



App 21
3k-woning
GO = 64,4m2



Doorsnede DL7



Doorsnede DL9

Berekening app 21

VG1 = 21,2 m2
Ae,tot = 1,08 + 1,55 = 2,63 m2
Ae,min = 10% x opp VG, 0,10 x 21,2 = 2,12
2,63 > 2,12 ==> VOLDOET

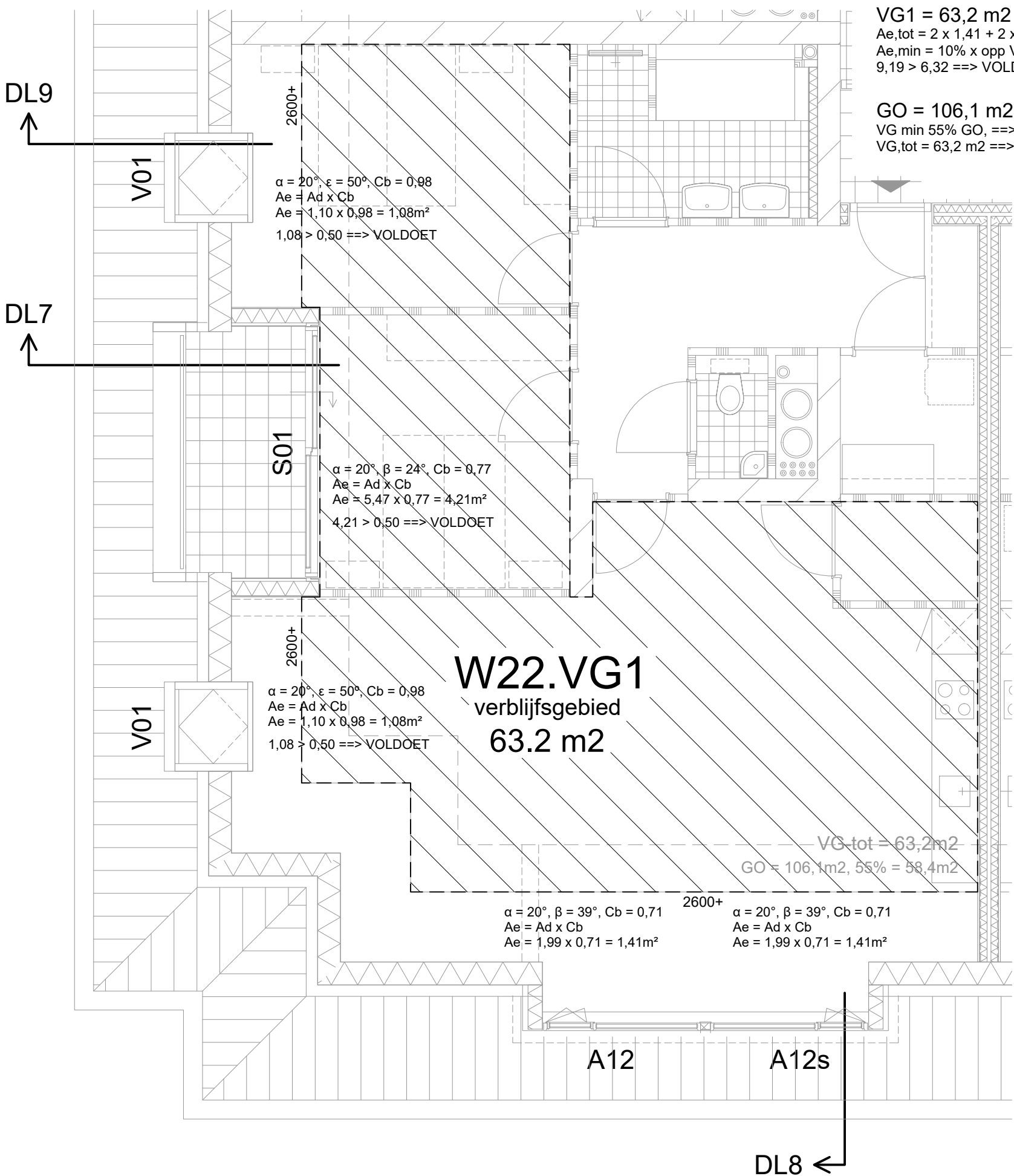
VG2 = 14,2 m2
Ae,tot = 1,71 + 1,08 = 2,79 m2
Ae,min = 10% x opp VG, 0,10 x 14,2 = 1,42
2,79 > 1,42 ==> VOLDOET

GO = 64,4 m2
VG min 55% GO, ==> 0,55 x 64,4 = 35,4 m2
VG,tot = 21,2 + 14,2 = 35,4 m2 ==> VOLDOET

Berekening app 22

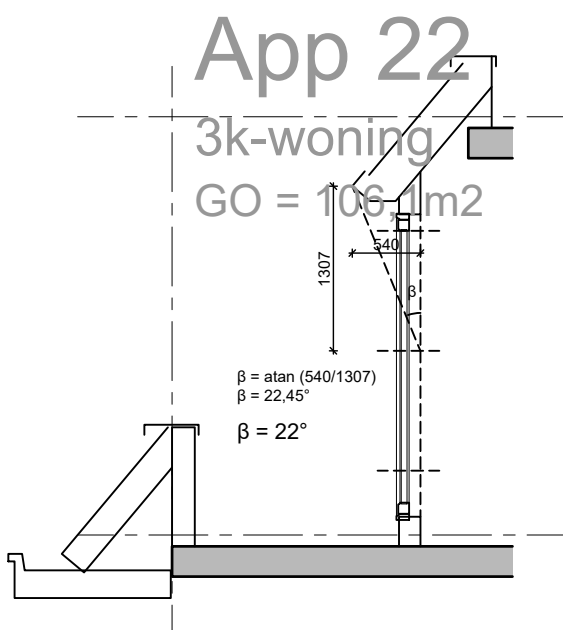
VG1 = 63,2 m2
Ae,tot = 2 x 1,41 + 2 x 1,08 + 4,21 = 9,19 m2
Ae,min = 10% x opp VG, 0,10 x 63,2 = 6,32
9,19 > 6,32 ==> VOLDOET

GO = 106,1 m2
VG min 55% GO, ==> 0,55 x 106,1 = 58,4 m2
VG,tot = 63,2 m2 ==> VOLDOET

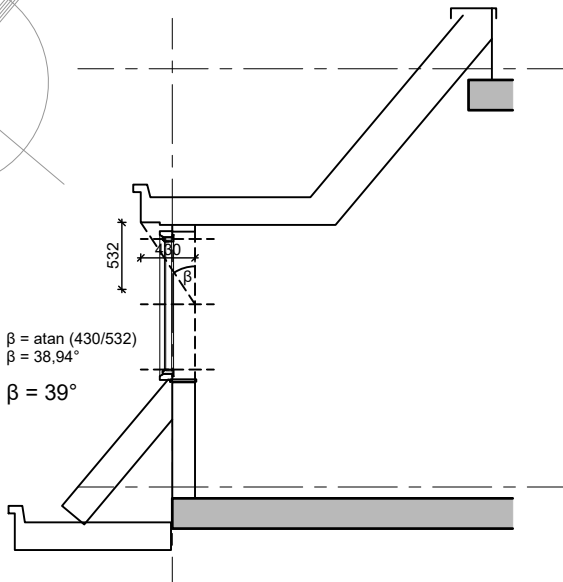
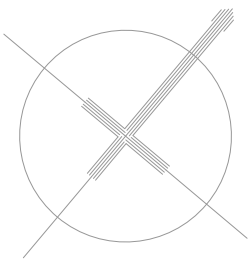


App 22

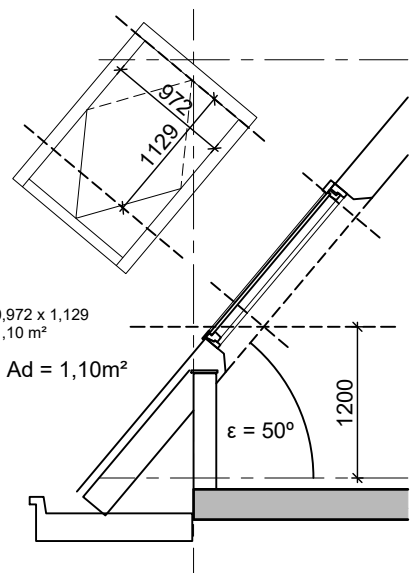
3k-woning
GO = 106,1 m2



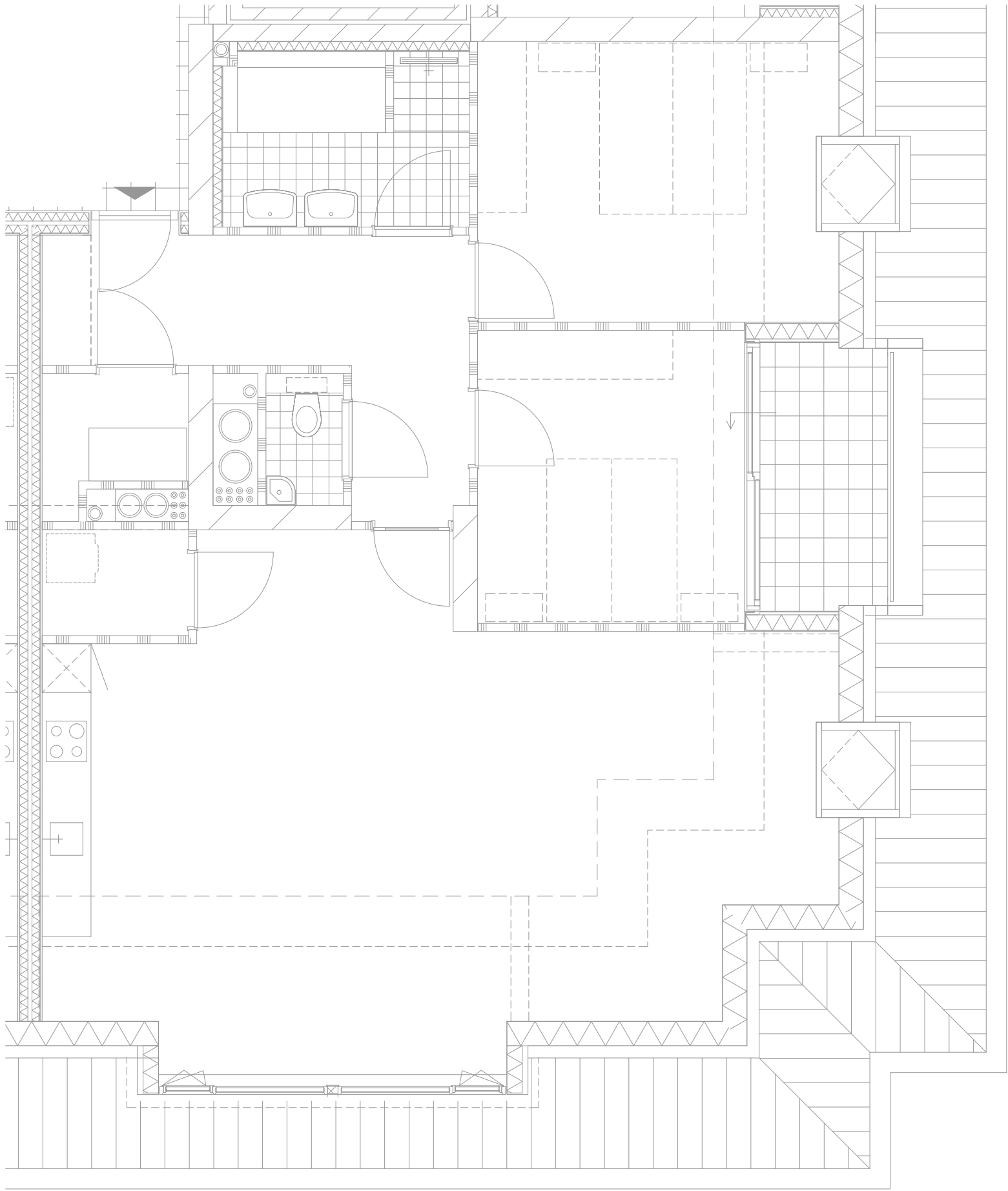
Doorsnede DL7



Doorsnede DL8



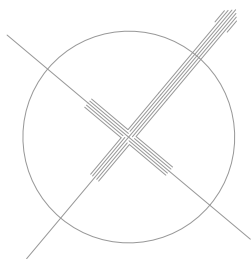
Doorsnede DL9



App 23

3k-woning

GO = 105,4m²



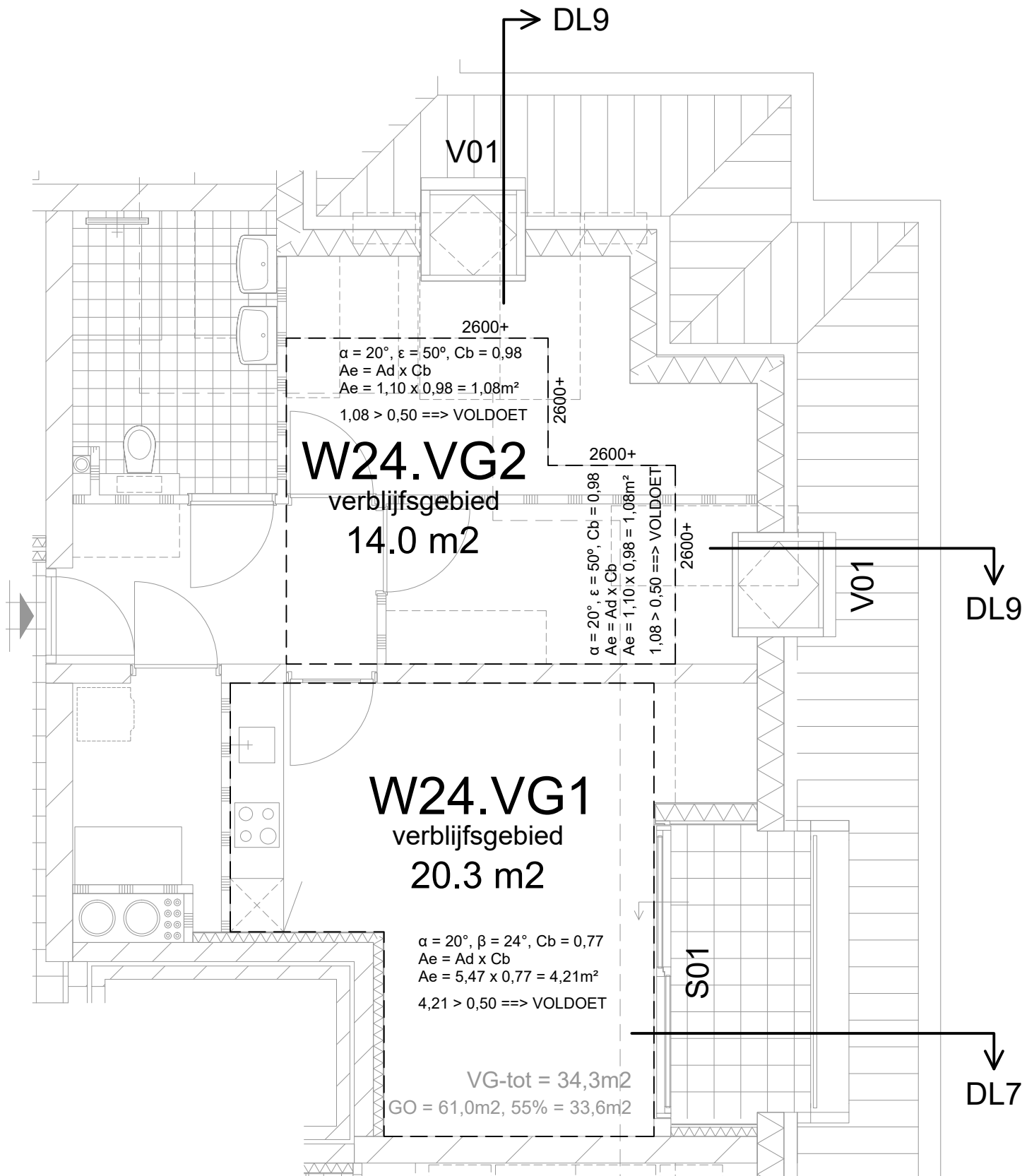
Zie app 22

Berekening app 24

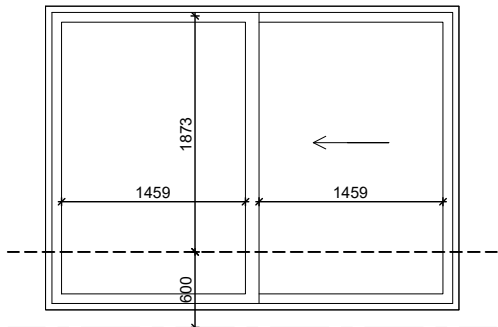
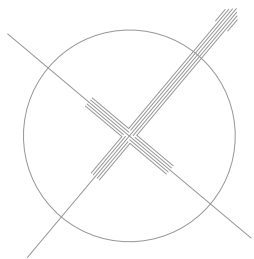
VG1 = 20,3 m2
Ae,tot = 4,21 m2
Ae,min = 10% x opp VG, 0,10 x 20,3 = 2,03
4,21 > 2,03 ==> VOLDOET

VG2 = 14,0 m2
Ae,tot = 2 x 1,08 = 2,16 m2
Ae,min = 10% x opp VG, 0,10 x 14,0 = 1,40
2,16 > 1,40 ==> VOLDOET

GO = 61,0 m2
VG min 55% GO, ==> 0,55 x 61,0 = 33,6 m2
VG,tot = 20,3 + 14,0 = 34,3 m2 ==> VOLDOET

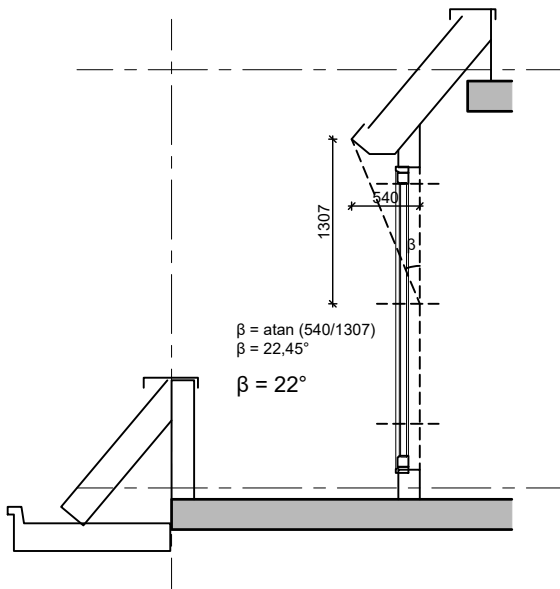


App 24
3k-woning
GO = 60,8m2



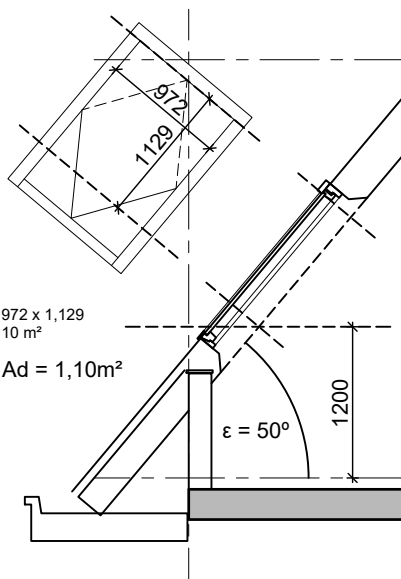
Ad = 2 x 1,459 x 1,873
Ad = 5,47 m²

S01, Ad = 5,47m²



$\beta = \arctan(540/1307)$
 $\beta = 22,45^\circ$
 $\beta = 22^\circ$

Doorsnede DL7



Ad = 0,972 x 1,129
Ad = 1,10 m²

V01, Ad = 1,10m²

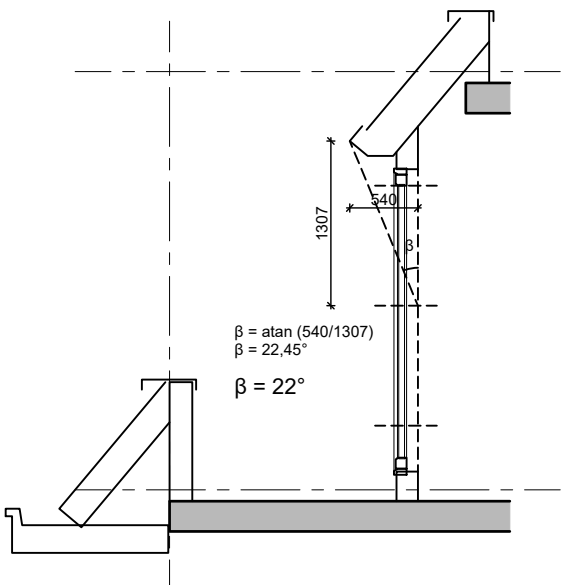
Doorsnede DL9

Berekening app 25

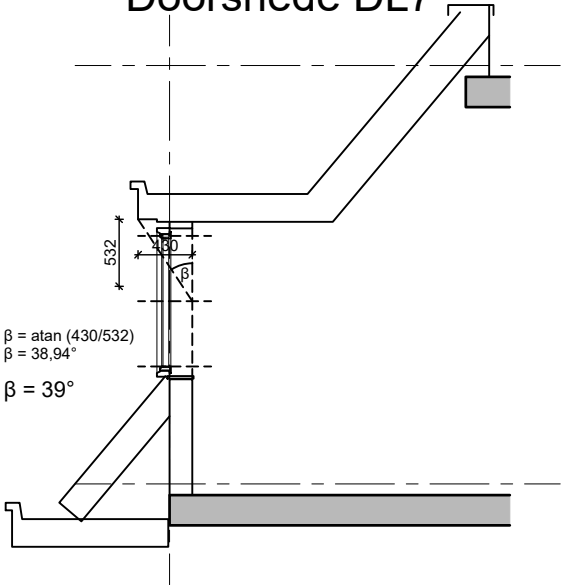
VG1 = 22,2 m2
Ae,tot = 2 x 1,41 + 1,08 + 1,55 = 5,45 m2
Ae,min = 10% x opp VG, 0,10 x 22,2 = 2,22
5,45 > 2,22 ==> VOLDOET

VG2 = 19,4 m2
Ae,tot = 1,71 + 1,08 = 2,79 m2
Ae,min = 10% x opp VG, 0,10 x 19,4 = 1,94
2,79 > 1,94 ==> VOLDOET

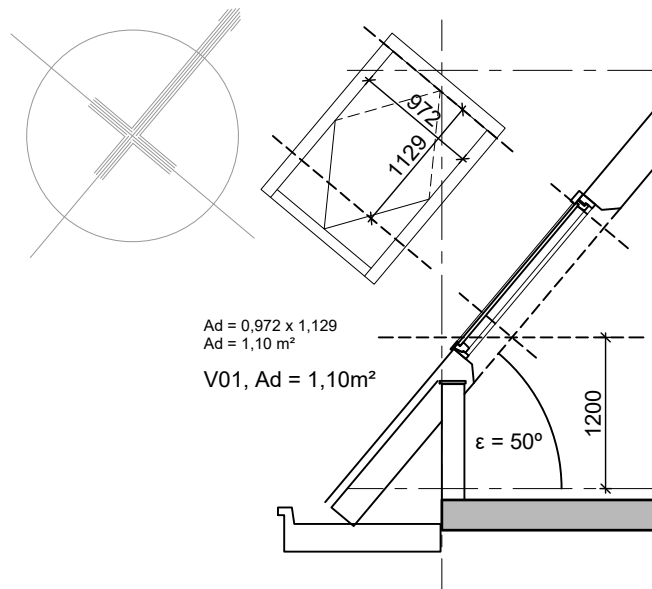
GO = 73,1 m2
VG min 55% GO, ==> 0,55 x 73,1 = 40,2 m2
VG,tot = 22,2 + 19,4 = 41,6 m2 ==> VOLDOET



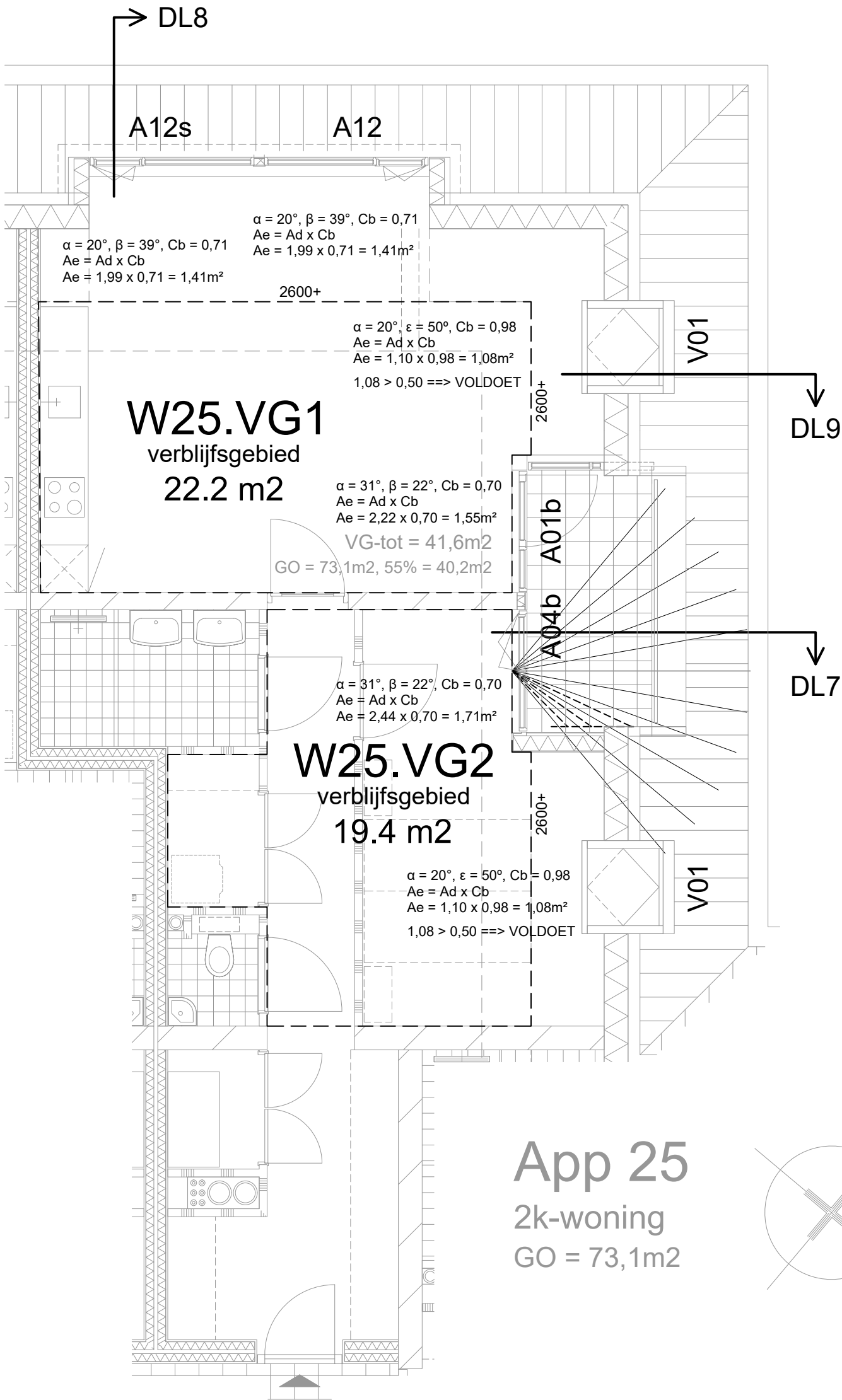
Doorsnede DL7



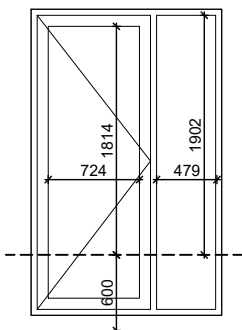
Doorsnede DL8



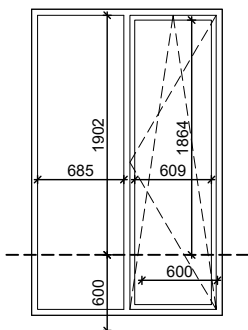
Doorsnede DL9



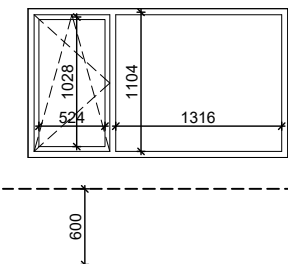
App 25
2k-woning
GO = 73,1m2



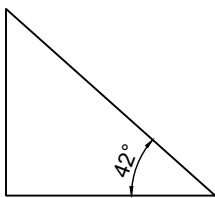
A01b, Ad = 2,22m2



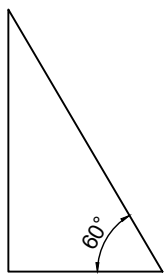
A04b, Ad = 2,44m2



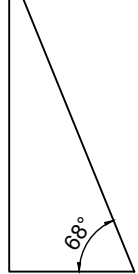
A12, Ad = 1,99m2



alpha, segment 8 = 42°



alpha, segment 9 = 60°



alpha, segment 10 = 68°

alpha, gem = (42 + 60 + 68 + 7 x 20) / 10 =
alpha, gem = 310 / 10 = 31°