

Akoestisch onderzoek
Supermarkt CP Nederweert

Rapportnr. M14 055.401.1

Opdrachtgever : Bouwbedrijven Jongen
Postbus 31007 6370 AA Landgraaf
Tel: 088 – 186 1200

Contactpersoon: de heer N.Vleugels
de heer G. de Monte

Adviseur : K+ Adviesgroep bv
Jodenstraat 6 6101 AS Echt
Postbus 224 6100 AE Echt
Tel: 0475 - 470 470
E-mail: info@k-plus.nl

Behandeld door: ir. W.M. Siebesma

Datum : 10 juli 2018

Referentie : WS/WS/M14 055.401.1.docx

BIJLAGE III

Berekeningsgegevens – en resultaten gevelgeluidwering

Invallende geluidniveaus waarneempunt 7
1.5 m hoogte (+4.3)

| | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 | Totaal |
|----------|-------|-------|-------|------|------|------|-------|-------|--------|
| Niveau | 31.9 | 27.4 | 29.1 | 37.5 | 39.8 | 37.6 | 34.1 | 27 | 44.3 |
| Spectrum | -12.4 | -16.9 | -15.2 | -6.8 | -4.5 | -6.7 | -10.2 | -17.3 | |

project **M14 055, CP Nederweert**
 Projectdatum 06-07-2018
 Opdrachtgever Bouwbedrijven Jongen
 Uitgevoerd door WS

gebouw **Hoekappartement**

Rekenmethode GGG-97 totaal 125 250 500 1000 2000
 V/Sr is minimaal 3, conform NEN5077-C3 (2013)
 Spectrum handinvoer Ci -16.9 -15.2 -6.8 -4.5 -6.7
 Uitgevoerd door WS

| verblijfsgebied VG1 | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|-----------------------------------|---|--------|-----|-----|-----|------|------|
| Geluidbelasting | 50 dB | | | | | | |
| Opgegeven als | L _{Aeq} | | | | | | |
| Su,tot | 53.9 m2 (Opp. uitw. gevelconstructie verblijfsgebied) | | | | | | |
| GA;k | 29.9 dB | | | | | | |
| GA;k, vereist | 24.0 dB | | | | | | |

woonkamer

| | | | | | | | |
|---------------|----------------|----|------|------|------|------|------|
| Su,ruimte | 35.4 m2 | | | | | | |
| GA;k | 29.8 dB | | | | | | |
| GA;k, vereist | 24.0 dB | | | | | | |
| V | 106.1 m3 | | | | | | |
| T,ref | 0.5 s | | | | | | |
| GA | 29.8 dB | GA | 37.3 | 34.0 | 36.4 | 40.9 | 42.9 |
| Lp | 20.2 dB | Lp | 12.7 | 16.0 | 13.6 | 9.1 | 7.1 |

zuid

| | | | | | | | |
|------------|---------|------|------|------|------|------|------|
| Su,gevel | 10.7 m2 | Cl | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GA;k,gevel | 34.4 dB | | | | | | |
| GA,gevel | 34.4 dB | GA,g | 34.4 | 41.9 | 38.6 | 41.0 | 45.7 |
| | | Gi,g | | 25 | 23.4 | 34.2 | 41.2 |
| Lp,gevel | 15.6 dB | Lp,g | 15.6 | 8.1 | 11.4 | 9.0 | 4.3 |

| Gvdeel | Afm. | Cat.nr. | Msoort | Materiaal | GA;k,p | Lp;p | Cvlg | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|--------|---------------------|---------|--------|--|--------|------|------|----|--------|------|------|------|------|------|
| wand | 4.54m ² | mw51 | wand | Steen. spouwmuur 400 kg/m ² | 58.2 | -8.2 | 1.5 | RA | 53.7 | 41.0 | 46.0 | 52.0 | 59.0 | 64.0 |
| glas | 3.98m ² | gd27d | glas | 4/15/5 mm | 37.1 | 12.9 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| glas | 2.14m ² | gd27d | glas | 4/15/5 mm | 39.8 | 10.2 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| fonafh | 10.66m ² | kt40 | fonafh | kierterm 40 dB(A) nader te detailleren | 42.2 | 7.8 | 0 | RA | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

De rekenmethode voorziet in veiligheidsmarges voor suskasten en roosters. Kolom Cvlg is voor deze materialen niet van toepassing

zuid

| | | | | | | | |
|------------|---------|------|------|------|------|------|------|
| Su,gevel | 24.7 m2 | Cl | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GA;k,gevel | 31.6 dB | | | | | | |
| GA,gevel | 31.6 dB | GA,g | 31.6 | 39.1 | 35.9 | 38.2 | 42.7 |
| | | Gi,g | | 22.2 | 20.7 | 31.4 | 38.2 |
| Lp,gevel | 18.4 dB | Lp,g | 18.4 | 10.9 | 14.1 | 11.8 | 7.3 |

| Gvdeel | Afm. | Cat.nr. | Msoort | Materiaal | GA;k,p | Lp;p | Cvlg | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|--------|---------------------|---------|--------|--|--------|------|------|----|--------|------|------|------|------|------|
| wand | 13.46m ² | mw51 | wand | Steen. spouwmuur 400 kg/m ² | 53.4 | -3.4 | 1.5 | RA | 53.7 | 41.0 | 46.0 | 52.0 | 59.0 | 64.0 |
| glas | 9.10m ² | gd27d | glas | 4/15/5 mm | 33.5 | 16.5 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| glas | 2.14m ² | gd27d | glas | 4/15/5 mm | 39.8 | 10.2 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| fonafh | 24.70m ² | kt40 | fonafh | kierterm 40 dB(A) nader te detailleren | 38.6 | 11.4 | 0 | RA | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

De rekenmethode voorziet in veiligheidsmarges voor suskasten en roosters. Kolom Cvlg is voor deze materialen niet van toepassing

slaapkamer 1

| | | |
|---------------|-------------|----------------|
| Su,ruimte | 7 | m ² |
| GA;k | 27.9 | dB |
| GA;k, vereist | 24.0 | dB |
| V | 38.2 | m ³ |
| T,ref | 0.5 | s |
| GA | 30.5 | dB |
| Lp | 19.5 | dB |

| | | | | | |
|----|------|------|------|------|------|
| GA | 37.2 | 34.7 | 37.2 | 42.7 | 45.1 |
| Lp | 12.8 | 15.3 | 12.8 | 7.3 | 4.9 |

zuid

| | | |
|------------|-------------|----------------|
| Su,gevel | 7 | m ² |
| GA;k,gevel | <u>27.9</u> | dB |
| GA,gevel | 30.5 | dB |
| Lp,gevel | 19.5 | dB |

| | | | | | |
|------|------|------|------|------|------|
| Cl | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GA,g | 30.5 | 37.2 | 34.7 | 37.2 | 42.7 |
| Gi,g | | 20.3 | 19.5 | 30.4 | 38.2 |
| Lp,g | 19.5 | 12.8 | 15.3 | 12.8 | 7.3 |

| Gvdeel | Afm. | Cat.nr. | Msoort | Materiaal | GA;k,p | Lp;p | Cvlg | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|--------|---------------------|---------|--------|--|--------|------|------|----|--------|------|------|------|------|------|
| glas | 7.00 m ² | gd27d | glas | 4/15/5 mm | 28.4 | 19.0 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| | | | | in pandig balkon, niet abs. 50% afschermzone | | | | Cg | | 0.0 | 1.0 | 1.0 | 1.5 | 1.5 |
| fonafh | 7.00 m ² | kt40 | fonafh | kierterm 40 dB(A) nader te detailleren | 37.6 | 9.8 | 0 | RA | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | | | | in pandig balkon, niet abs. 50% afschermzone | | | | Cg | | 0.0 | 1.0 | 1.0 | 1.5 | 1.5 |

De rekenmethode voorziet in veiligheidsmarges voor suskasten en roosters. Kolom Cvlg is voor deze materialen niet van toepassing

slaapkamer 2

| | | |
|---------------|-------------|----------------|
| Su,ruimte | 11.5 | m ² |
| GA;k | 32.8 | dB |
| GA;k, vereist | 24.0 | dB |
| V | 36.6 | m ³ |
| T,ref | 0.5 | s |
| GA | 33.0 | dB |
| Lp | 17.0 | dB |

| | | | | | |
|----|------|------|------|------|------|
| GA | 40.8 | 38.0 | 40.0 | 43.6 | 44.8 |
| Lp | 9.2 | 12.0 | 10.0 | 6.4 | 5.2 |

oostgevel

| | | |
|------------|-------------|----------------|
| Su,gevel | 11.5 | m ² |
| GA;k,gevel | <u>32.8</u> | dB |
| GA,gevel | 33.0 | dB |
| Lp,gevel | 17.0 | dB |

| | | | | | |
|------|------|------|------|------|------|
| Cl | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GA,g | 33.0 | 40.8 | 38.0 | 40.0 | 43.6 |
| Gi,g | | 23.9 | 22.8 | 33.2 | 39.1 |
| Lp,g | 17.0 | 9.2 | 12.0 | 10.0 | 6.4 |

| Gvdeel | Afm. | Cat.nr. | Msoort | Materiaal | GA;k,p | Lp;p | Cvlg | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|--------|----------------------|---------|--------|--|--------|------|------|----|--------|------|------|------|------|------|
| wand | 9.36 m ² | mw51 | wand | Steen. spouwmuur 400 kg/m ² | 50.1 | -0.4 | 1.5 | RA | 53.7 | 41.0 | 46.0 | 52.0 | 59.0 | 64.0 |
| glas | 2.14 m ² | gd27d | glas | 4/15/5 mm | 34.9 | 14.8 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| fonafh | 11.50 m ² | kt40 | fonafh | kierterm 40 dB(A) nader te detailleren | 37.0 | 12.7 | 0 | RA | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

De rekenmethode voorziet in veiligheidsmarges voor suskasten en roosters. Kolom Cvlg is voor deze materialen niet van toepassing

project M14 055, CP Nederweert

Projectdatum 06-07-2018
 Opdrachtgever Bouwbedrijven Jongen
 Uitgevoerd door WS

gebouw Appartement

Rekenmethode GGG-97
 V/Sr is minimaal 3, conform NEN5077-C3 (2013)
 Spectrum handinvoer
 Uitgevoerd door

| | totaal | 125 | 250 | 500 | 1000 | 2000 |
|--|--------|-----|-----|-----|------|------|
|--|--------|-----|-----|-----|------|------|

| | | | | | | |
|----|-------|-------|------|------|------|--|
| Ci | -16.9 | -15.2 | -6.8 | -4.5 | -6.7 | |
|----|-------|-------|------|------|------|--|

| verblijfsgebied VG1 | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|----------------------------|----------------|--------|-----|-----|-----|------|------|
| Geluidbelasting | 50 dB | | | | | | |
| Opgegeven als | LAeq | | | | | | |
| Su,tot | 18.5 m2 | | | | | | |
| GA;k | 30.1 dB | | | | | | |
| GA;k, vereist | 24.0 dB | | | | | | |

woonkamer

| | | | | | | | |
|---------------|----------------|----|------|------|------|------|------|
| Su,ruimte | 10.7 m2 | | | | | | |
| GA;k | 29.2 dB | | | | | | |
| GA;k, vereist | 24.0 dB | | | | | | |
| V | 74.3 m3 | | | | | | |
| T,ref | 0.5 s | | | | | | |
| GA | 32.9 dB | GA | 40.4 | 37.0 | 39.4 | 44.1 | 46.2 |
| Lp | 17.1 dB | Lp | 9.6 | 13.0 | 10.6 | 5.9 | 3.8 |

oost

| | | | | | | | |
|------------|---------|------|------|------|------|------|------|
| Su,gevel | 10.7 m2 | Cl | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| GA;k,gevel | 29.2 dB | | | | | | |
| GA,gevel | 32.9 dB | GA,g | 32.9 | 40.4 | 37.0 | 39.4 | 44.1 |
| | | Gi,g | 23.5 | 21.8 | 32.6 | 39.6 | 39.5 |
| Lp,gevel | 17.1 dB | Lp,g | 17.1 | 9.6 | 13.0 | 10.6 | 5.9 |

| Gvdeel | Afm. | Cat.nr. | Msoort | Materiaal | GA;k,p | Lp;p | Cvlg | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|--------|----------|---------|--------|--|--------|------|------|----|--------|------|------|------|------|------|
| wand | 4.54 m2 | mw51 | wand | Steen. spouwmuur 400 kg/m2 | 52.9 | -6.6 | 1.5 | RA | 53.7 | 41.0 | 46.0 | 52.0 | 59.0 | 64.0 |
| glas | 3.98 m2 | gd27d | glas | 4/15/5 mm | 31.9 | 14.4 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| glas | 2.14 m2 | gd27d | glas | 4/15/5 mm | 34.6 | 11.7 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| fonafh | 10.66 m2 | kt40 | fonafh | kierterm 40 dB(A) nader te detailleren | 37.0 | 9.3 | 0 | RA | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

De rekenmethode voorziet in veiligheidsmarges voor suskasten en roosters. Kolom Cvlg is voor deze materialen niet van toepassing

kleine slaapkamer

| | | | | | | | | | | | | | | |
|---------------|----------------|----|------|------|------|------|------|--|--|--|--|--|--|--|
| Su,ruimte | 7.8 m2 | | | | | | | | | | | | | |
| GA;k | 31.7 dB | | | | | | | | | | | | | |
| GA;k, vereist | 24.0 dB | | | | | | | | | | | | | |
| V | 32.7 m3 | | | | | | | | | | | | | |
| T,ref | 0.5 s | | | | | | | | | | | | | |
| GA | 33.1 dB | GA | 40.8 | 37.8 | 39.9 | 43.9 | 45.4 | | | | | | | |
| Lp | 16.9 dB | Lp | 9.2 | 12.2 | 10.1 | 6.1 | 4.6 | | | | | | | |

oost

| | | | | | | | | | | |
|------------|-------------|----------------|--|------|------|------|------|------|------|------|
| Su,gevel | 7.8 | m ² | | Cl | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| GA;k,gevel | <u>31.7</u> | dB | | | | | | | | |
| GA,gevel | 33.1 | dB | | GA,g | 33.1 | 40.8 | 37.8 | 39.9 | 43.9 | 45.4 |
| | | | | Gi,g | | 23.9 | 22.6 | 33.1 | 39.4 | 38.7 |
| Lp,gevel | 16.9 | dB | | Lp,g | 16.9 | 9.2 | 12.2 | 10.1 | 6.1 | 4.6 |

| Gvldeel | Afm. | Cat.nr. | Msoort | Materiaal | GA;k,p | Lp;p | Cvlg | | totaal | 125 | 250 | 500 | 1000 | 2000 |
|---------|--------------------|---------|--------|--|--------|------|------|----|--------|------|------|------|------|------|
| wand | 5.66 _{m2} | mw51 | wand | Steen. spouwmuur 400 kg/m ² | 50.6 | -2.1 | 1.5 | RA | 53.7 | 41.0 | 46.0 | 52.0 | 59.0 | 64.0 |
| glas | 2.14 _{m2} | gd27d | glas | 4/15/5 mm | 33.2 | 15.3 | 0 | RA | 30.6 | 21.0 | 19.0 | 30.0 | 38.0 | 39.0 |
| fonafh | 7.80 _{m2} | kt40 | fonafh | kierterm 40 dB(A) nader te detailleren | 37.0 | 11.6 | 0 | RA | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

De rekenmethode voorziet in veiligheidsmarges voor suskasten en roosters. Kolom Cvlg is voor deze materialen niet van toepassing