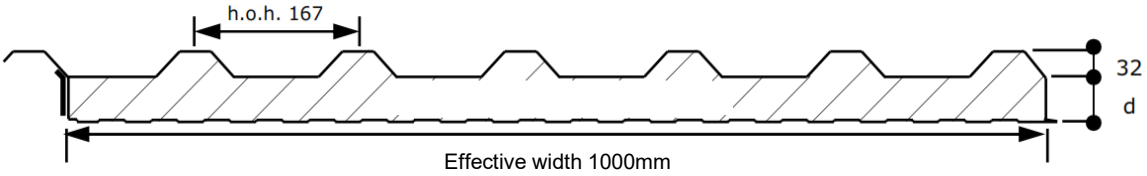
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

CE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman 32/1000D – Pitched roof panel / Wall panel



Panel (d / d+32)	Weight (kg/m²)	Insulation Value U-value (W/m²K)	Thermal resistance Rc-value (m²K/W)
40/72	11,00	0,47	2,12
60/92	11,80	0,32	3,10
80/112	12,60	0,25	4,06
100/132	13,40	0,20	5,00
132/164	14,26	0,15	6,55

Steel grade
S280GD according to EN 10147

Corrosion protection
Z275 or AZ150 according to EN 10326

Coatings
HDS, HDX, Plastisol P200, Nova 50 and/or Polyester 25 according to EN 10169

Insulation
PIR-plus insulation +/- 38 kg/m³ acc. to EN 14509, penthane blown and fully (H)CFK-free production. Lambda value according to NEN-EN 12667 and NEN-EN 13165; Rc-values according to NTA 8800

Quality mark
Panels are extensively tested and checked by FPC (factory production control) system according to EN 14509. The panels are supplied under the CE mark

Safe load spans
Loads calculated according to eurocode NEN-EN-1991-1; calculation methods according to EN 14509; job-related calculation can be provided given local snow– and windloads

Fire behaviour and fire resistance
Fire classification: B,s2-d0 according to EN13501-1 (certified)

Sound insulation
For all PIR panels a weigthed average value of +/- 25 dB(A) can be used to calculate sound resistance.
Sound resistance of the 60/92 panel according to ISO 10140-2: Rw= 25dB

Producttolerances
Tolerances, sizes and production according to EN 14509 and EN 508-1 standards

Certificate issue date: April 4, 2023
Valid until: Next release

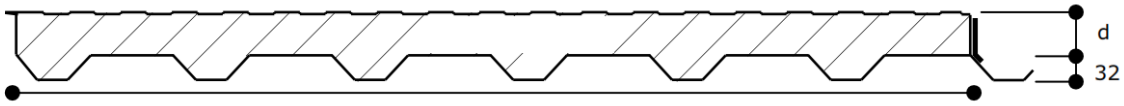
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

CE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman 32/1000D – Flat roof panel



Effective width 1000mm

Panel (d / d+32)	Weight (kg/m²)	Insulation Value U-value (W/m²K)	Thermal resistance Rc-value (m²K/W)
40/72	11,00	0,47	2,12
60/92	11,80	0,32	3,10
80/112	12,60	0,25	4,06
100/132	13,40	0,20	5,00
132/164	14,26	0,15	6,55

Steel grade
S280GD according to EN 10147

Corrosion protection
Z275 or AZ150 according to EN 10326

Coatings
HDS, HDX, Plastisol P200, Nova 50 and/or Polyester 25 according to EN 10169

Insulation
PIR-plus insulation +/- 38 kg/m³ acc. to EN 14509, penthane blown and fully (H)CFK-free production. Lambda value according to NEN-EN 12667 and NEN-EN 13165; Rc-values according to NTA 8800

Quality mark
Panels are extensively tested and checked by FPC (factory production control) system according to EN 14509. The panels are supplied under the CE mark

Safe load spans
Loads calculated according to eurocode NEN-EN-1991-1; calculation methods according to EN 14509; job-related calculation can be provided given local snow– and windloads

Fire behaviour and fire resistance
Fire classification: B,s2-d0 according to EN13501-1 (certified)

Sound insulation
For all PIR panels a weigthed average value of +/- 25 dB(A) can be used to calculate sound resistance.
Sound resistance of the 60/92 panel according to ISO 10140-2: Rw= 25dB

Producttolerances
Tolerances, sizes and production according to EN 14509 and EN 508-1 standards

Certificate issue date: April 4, 2023
Valid until: Next release

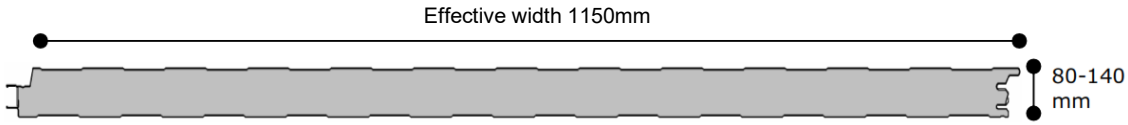
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

CE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman 1150-WV-LL – Flat roof panel



Paneel	Weight (kg/m²)	Insulation Value U-value (W/m²K)	Thermal resistance Rc-value (m²K/W)
1150-WV-80	11,78	0,27	3,73
1150-WV-100	12,62	0,22	4,70
1150-WV-140	14,26	0,15	6,58

Steel grade
S280GD according to EN 10147

Corrosion protection
Z275 or AZ150 according to EN 10326

Coatings
HDS, HDX, Plastisol P200, Nova 50 and/or Polyester 25 according to EN 10169

Insulation
PIR-plus insulation +/- 38 kg/m³ acc. to EN 14509, penthane blown and fully (H)CFK-free production. Lambda value according to NEN-EN 12667 and NEN-EN 13165; Rc-values according to NTA 8800

Quality mark
Panels are extensively tested and checked by FPC (factory production control) system according to EN 14509. The panels are supplied under the CE mark

Safe load spans
Loads calculated according to eurocode NEN-EN-1991-1; calculation methods according to EN 14509; job-related calculation can be provided given local snow– and windloads

Fire behaviour and fire resistance
Fire classification: B,s2-d0 according to EN13501-1 (certified)

Sound insulation
For all PIR panels a weigthed average value of +/- 25 dB(A) can be used to calculate sound resistance.
Sound resistance of the 60/92 panel according to ISO 10140-2: Rw= 25dB

Producttolerances
Tolerances, sizes and production according to EN 14509 and EN 508-1 standards

Certificate issue date: April 4, 2023
Valid until: Next release

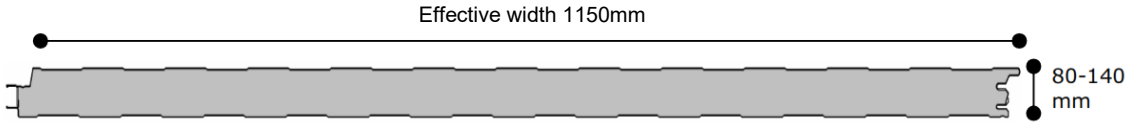
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

CE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman 1150-WV-LL/M16L – Wall panel



Panel	Weight (kg/m²)	Insulation Value U-value (W/m²K)	Thermal resistance Rc-waarde (m²K/W)	Fire resistance EN 1364
1150-WV-40	10,10	0,70	1,36	-
1150-WV-60	10,94	0,37	2,70	EW60
1150-WV-80	11,78	0,27	3,73	EW60
1150-WV-100	12,62	0,22	4,70	EW120
1150-WV-140	14,26	0,15	6,58	EW120

Steel grade
S280GD according to EN 10147

Corrosion protection
Z275 or AZ150 according to EN 10326

Coatings
HDS, HDX, Plastisol P200, Nova 50 and/or Polyester 25 according to EN 10169

Insulation
PIR-plus insulation +/- 38 kg/m³ acc. to EN 14509, penthane blown and fully (H)CFK-free production. Lambda value according to NEN-EN 12667 and NEN-EN 13165; Rc-values according to NTA 8800

Quality mark
Panels are extensively tested and checked by FPC (factory production control) system according to EN 14509. The panels are supplied under the CE mark

Safe load spans
Loads calculated according to eurocode NEN-EN-1991-1; calculation methods according to EN 14509; job-related calculation can be provided given local snow– and windloads

Fire behaviour and fire resistance (Wall panel)
Fire classification: B,s2-d0 according to EN13501-1 (certified)
Fire resistance (see table above) according to EN1364 (certified), for use as outside wall

Sound insulation
For all PIR panels a weigthed average value of +/- 25 dB(A) can be used to calculate sound resistance.
Sound resistance of the 60/92 panel according to ISO 10140-2: Rw= 25dB

Producttolerances
Tolerances, sizes and production according to EN 14509 and EN 508-1 standards

Certificate issue date: April 4, 2023
Valid until: Next release

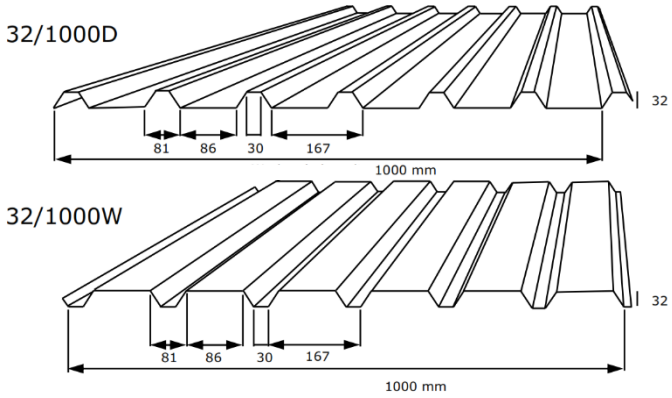
HARDEMAN
VEENENDAAL

PRODUCT CERTIFICATE

CE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman 32/1000D – 32/1000W Profiled sheets



Steel thickness	Weight (kg/m²)	Weight (kg/m²)
	32/1000D	**32/1000W**
0.55 mm	5,58	5,42
0.75 mm	7,61	7,36

Steel grade
S280GD according to EN 10147

Corrosion protection
Z275 or AZ150 according to EN 10326

Coatings
HDS, HDX, Plastisol P200, Nova 50 and/or Polyester 25 according to EN 10169

Anti condense fleece and acoustic fleece
Fire behaviour B,s1,d0 according to EN 13501-1, quality demands according to ISO 9073-3

Quality mark
Panels are extensively tested and checked by FPC (factory production control) system according to EN 14509. The panels are supplied under the CE mark

Product tolerances
Tolerances, sizes and production according to EN 14509 and EN 508-1 standards

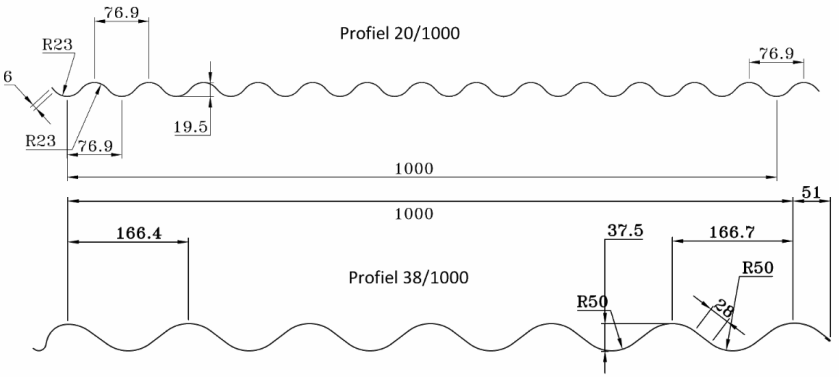
HARDEMAN
VEENENDAAL

PRODUCT CERTIFICATE

CE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman 20/1000 and 38/1000 Corrugated sheets



Steel grade
S280GD according to EN 10147

Corrosion protection
Z275 or AZ150 according to EN 10326

Coatings
Plastisol P200, Nova 50 and/or Polyester 25 according to EN 10169

Anti condense fleece and acoustic fleece
Fire behaviour B,s1,d0 according to EN 13501-1, quality demands according to ISO 9073-3

Quality mark
Panels are extensively tested and checked by FPC (factory production control) system according to EN 14509. The panels are supplied under the CE mark

Product tolerances
Tolerances, sizes and production according to EN 14509 and EN 508-1 standards

Certificate issue date: April 4, 2023
Valid until: Next release

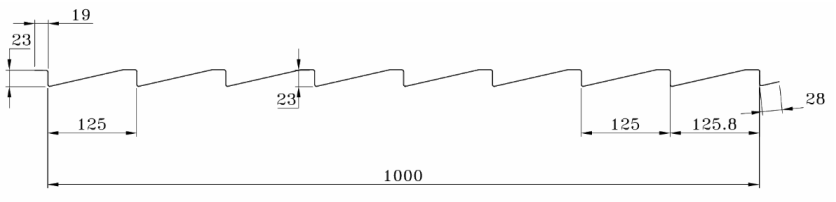
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

CE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman 23/1000R Plank profile sheets



Steel grade
S280GD according to EN 10147

Corrosion protection
Z275 or AZ150 according to EN 10326

Coatings
HDS, HDX, Plastisol P200, Nova 50 and/or Polyester 25 according to EN 10169

Quality mark
Panels are extensively tested and checked by FPC (factory production control) system according to EN 14509. The panels are supplied under the CE mark

Product tolerances
Tolerances, sizes and production according to EN 14509 and EN 508-1 standards

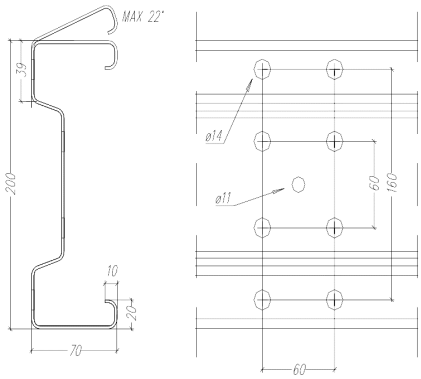
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman Sigma 200⁺

Cold formed galvanized profiles



Steel grade
S390GD-S420GD according to EN 10147

Corrosion protection
Z275, ZMA140 or Z800 according to EN 10326

Quality insurance
These sigma profiles are produced according to the norms and guidelines that are applicable.

Span tables
Safe load spans according to our span tables with loads according to eurocode NEN-EN 1991; for export orders, a stress calculation will be made for each specific job, according to the local loads and safety factors as provided to us by customer and/or authorities.

Technical data:

Sigma 200⁺	Galvanized: 275 gr.					800 gr.		
Thickness (mm)	**1.25**	**1.50**	**2.00**	**2.50**	**3.00**	**1.50**	**2.50**	**3.00**
Weight (kg/m¹)	4.02	4.80	6.37	7.94	9.35	4.80	7.96	9.55
Iy (cm⁴)	308.6	344.1	483.4	595.8	705.5	368.1	595.8	705.5
Wy (cm³)	30.7	34.1	47.9	59.0	69.8	36.5	59.0	69.8
Iz (cm⁴)	26.3	29.3	40.3	48.9	57.6	31.4	48.9	57.6
Wz (cm³)	9.3	10.4	14.3	17.4	20.5	11.3	17.4	20.5
Area (m²/m¹)	0.83	0.83	0.84	0.85	0.85	0.83	0.85	0.85
Section(cm²)	5.16	5.77	8.16	10.12	12.01	6.19	10.12	12.01
Steel grade	S420G	S420G	S420G	S420G	S390G	S420G	S420G	S390G

Certificate issue date: April 4, 2023
Valid until: Next release

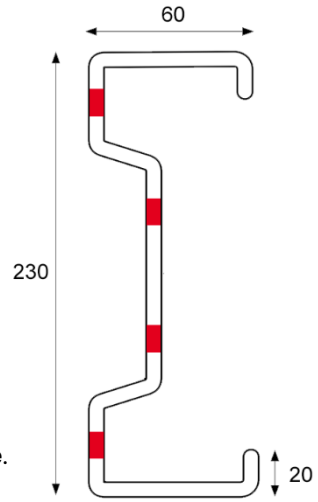
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman Sigma 230

Cold formed galvanized profiles



Steel grade
S390GD-S420GD according to EN 10147

Corrosion protection
Z275, ZMA140 or Z800 according to EN 10326

Quality insurance
These sigma profiles are produced according to the norms and guidelines that are applicable.

Span tables
Safe load spans according to our span tables with loads according to eurocode NEN-EN 1991; for export orders, a stress calculation will be made for each specific job, according to the local loads and safety factors as provided to us by customer and/or authorities.

Technical data:

Thickness(mm)	1.50	2.00	2.50	3.00
Weight (kg/m¹)	4.80	6.40	8.00	9.60
Iy (kmm⁴)	4735	6255	7745	9206
Wy (kmm³)	41.4	54.7	67.7	80.5
Iz (kmm⁴)	257	336	412	485
Wz (kmm³)	10.5	13.6	16.6	19.4
Area (m²/m¹)	0.60	0.80	1.00	1.20
Steel grade	S420G	S420G	S420G	S390G

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Valid until: Next release

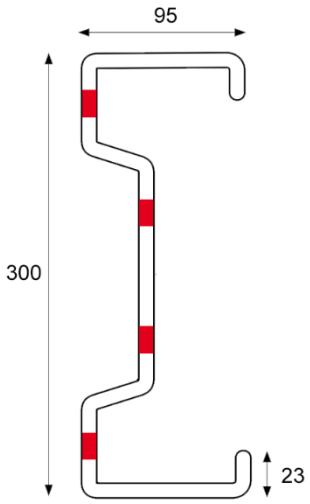
HARDEMAN VEENENDAAL

PRODUCT CERTIFICATE

Manufacturer: C300 dak– en wandsystemen BV — Postbus 376 — 3900AJ Veenendaal — the Netherlands
Production site: Moleculenstraat 5 — 3903LH Veenendaal — the Netherlands

Hardeman Sigma 300

Cold formed galvanized profiles



Steel grade
S390GD-S420GD according to EN 10147

Corrosion protection
Z275, ZMA140 or Z800 according to EN 10326

Quality insurance
These sigma profiles are produced according to the norms and guidelines that are applicable.

Span tables
Safe load spans according to our span tables with loads according to eurocode NEN-EN 1991; for export orders, a stress calculation will be made for each specific job, according to the local loads and safety factors as provided to us by customer and/or authorities.

Technical data:

Thickness (mm)	**2.00**	**2.50**	**3.00**
Weight (kg/m¹)	8.64	10.80	12.96
Iy (kmm⁴)	14594	18113	21582
Wy (kmm³)	97.7	121.3	144.5
Iz (kmm⁴)	936	1154	1366
Wz (kmm³)	28.6	35.0	41.3
Area(m²/m¹)	1.08	1.35	1.62
Steel grade	S420G	S420G	S390G

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