

Mineral wool core panels

Load tables





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Introduction



The current technical report concerns the experimental investigation of mechanical behavior under different load conditions of self-supporting thermal insulation side or roof panels with metal sheet faces and mineral wool core. The experimental investigation was held at the Laboratory of Experimental Strength of Materials and Structures, Aristotle University of Thessaloniki.

The tests were performed according to the EN standard 14509:2013. Three (3) different products were examined, of which exactly the same experimental procedure was followed. For these products, based on EN 14509:2013, a series of tests were performed in order to determine the basic mechanical characteristics of the panels which constitute the deliverables of the project and some of them are presented in this issue.



Description

Roof covering

The composite thermal insulated “sandwich” type panel, consists of two metal sheets and an insulating mineral wool core - (MW). It is produced according to the European Standard EN 14509:2013 and bears the CE mark. It is mainly used for roof covering of buildings.

The outer metal sheet is pre-painted and hot-dip galvanized according to the standard EN 10346, with trapezoidal configuration of four (4) tables.

The inner metal sheet is pre-painted hot-dip galvanized according to EN 10346, slightly shaped “linear” or flat.

Nominal thickness: 50-150 mm.

Cover width: 1000 mm

Wall cladding

The composite thermal insulated “sandwich” type panel, consists of two metal sheets and an insulating mineral wool core - (MW). It is produced in accordance with the European Standard EN 14509:2013 and bears the CE mark. It is mainly used for wall claddings of buildings.

The outer metal sheet is pre-painted and hot-dip galvanized according to Standard EN 10346, slightly shaped “micro-linear” or flat.

The inner metal sheet is pre-painted hot-dip galvanized in accordance with Standard EN 10346, slightly shaped “micro-linear” or flat.

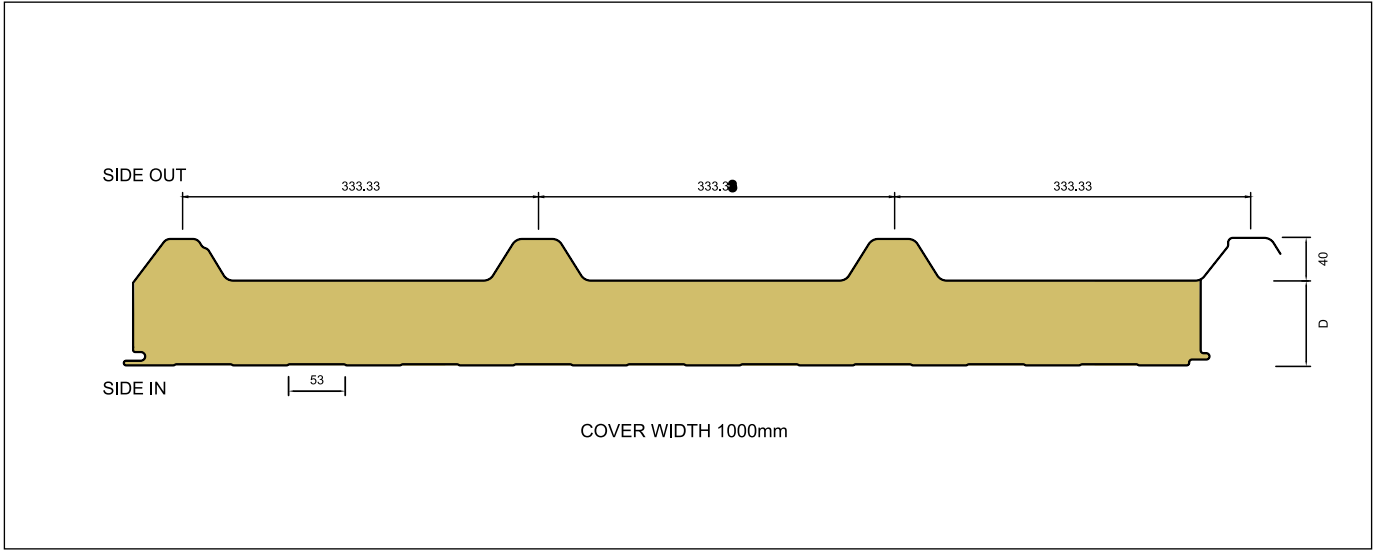
Nominal thickness: 50-150 mm.

Cover width: 1000 mm

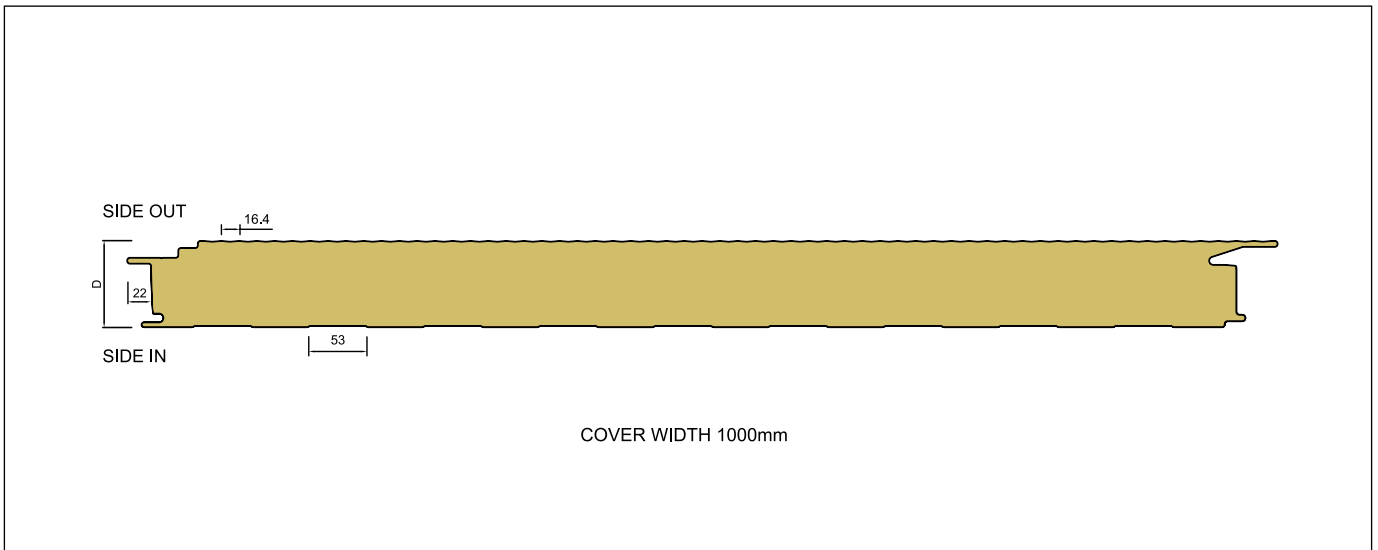
Technical specifications



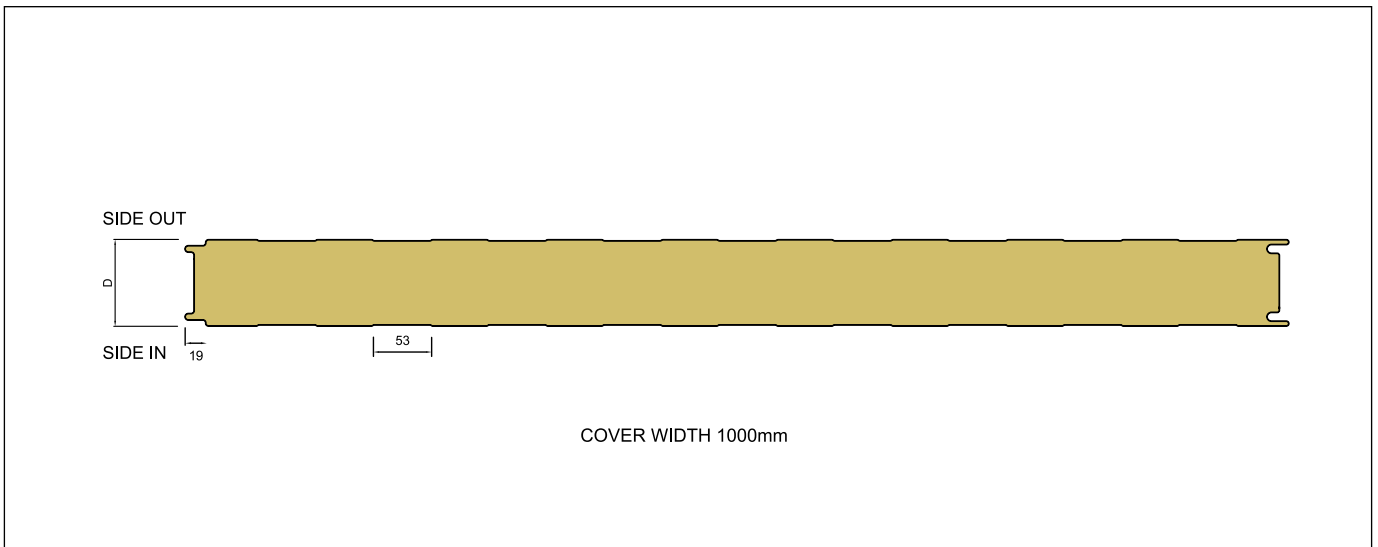
ECOPANEL RL-MW (Roof panel)



ECOPANEL WLC-MW (Wall panel - Concealed fix)



ECOPANEL WL-MW (Wall panel - Internal partition - Visible fix)



Technical specifications



ECOPANEL RL-MW (Roof panel)

Core thickness (mm)	50	60	80	100	120	150
Weight kg/m ² sheet thickness 0,50 / 0,50	14,1	15,1	17,1	19,1	21,1	24,1
Thermal transmission co-efficient u (w/m ² *k)	0,688	0,588	0,456	0,373	0,327	0,256
Reaction to fire	A2-s1-d0 / EN 13501-1					
Fire resistance	-	RE120/REI30	RE120/REI60	RE180/REI180	RE180/REI180	RE180/REI180
Sound reduction index db (C ; ctr)	30(-1;-2)	30(-1;-2)	30(-1;-2)	31(-1 ; -2)	31(-1 ; -2)	31(-1 ; -2)
Cover width (mm)	1000					
Available length (mm)	2000 - 8000					

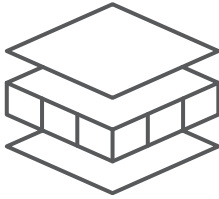
ECOPANEL WLC-MW (Wall panel - Concealed fix)

Core thickness (mm)	50	60	80	100	120	150
Weight kg/m ² sheet thickness 0,50 / 0,50	13,6	14,6	16,6	18,9	20,6	23,6
Thermal transmission co-efficient u (w/m ² *k)	0,761	0,638	0,484	0,390	0,328	0,264
Reaction to fire	A2-s1-d0 / EN 13501-1					
Fire resistance	-	-	E30/EI30/EW30	E45/EI45/EW45	E45/EI45/EW45	E45/EI45/EW45
Sound reduction index db (C ; ctr)	30(-1;-2)	30(-1;-2)	30(-1;-2)	31(-1 ; -2)	31(-1 ; -2)	31(-1 ; -2)
Cover width (mm)	1000					
Available length (mm)	2000 - 8000					

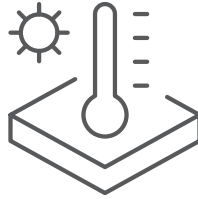
ECOPANEL WL-MW (Wall panel - Internal partition - Visible fix)

Core thickness (mm)	50	60	80	100	120	150
Weight kg/m ² sheet thickness 0,50 / 0,50	13,6	14,6	16,6	18,9	20,6	23,6
Thermal transmission co-efficient u (w/m ² *k)	0,753	0,633	0,482	0,390	0,328	0,264
Reaction to fire	A2-s1-d0 / EN 13501-1					
Fire resistance	-	E120/EI30/ EW120	E120/EI90/ EW120	E120/EI120/ EW120	E120/EI120/ EW120	E120/EI120/ EW120
Sound reduction index db (C ; ctr)	30(-1;-2)	30(-1;-2)	30(-1;-2)	31(-1 ; -2)	31(-1 ; -2)	31(-1 ; -2)
Cover width (mm)	1000					
Available length (mm)	2000 - 8000					

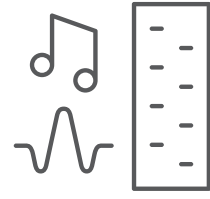
Mineral wool core physical properties



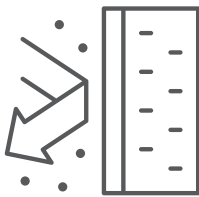
Excellent thermal insulation



Optimized for high Mechanical and Thermal stress



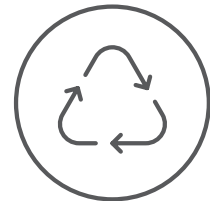
Excellent sound reduction properties



Water repellent and non-hygroscopic



Natural, inorganic, chemically inert



Recyclable and environmentally friendly

Mineral Wool characteristics	Symbols	Metric Units	Values	EN Standards
Reaction to fire	-	CLASS	A1	EN 13501-1
Long-term water absorption	WL (P)	Kg/m ²	< 3,0	EN 12087
Thermal conductivity	λD	W/(m,k)	0,039-0,040	EN 13162
Compressive stress	CS	KPa	>60	EN 862
Tensile strength	TS	KPa	>100	EN 1607
Shear strength	CS	KPa	>50	EN 12090
Core density	P	Kg/m ³	100	EN 1602

Panel tolerances

Cutting length	± 5-10 mm (Depending on panel's length)
Cover width	± 2 mm
Thickness	± 2 mm
End square	0,6 %

Coatings



Standard type

Hot-dip galvanized steel S220GD ~ S320GD (EN 10346)

Anti-corrosion protection

Zinc coating Z100 (100gr/m²) - Z275 (275gr/m²) (EN 10346)

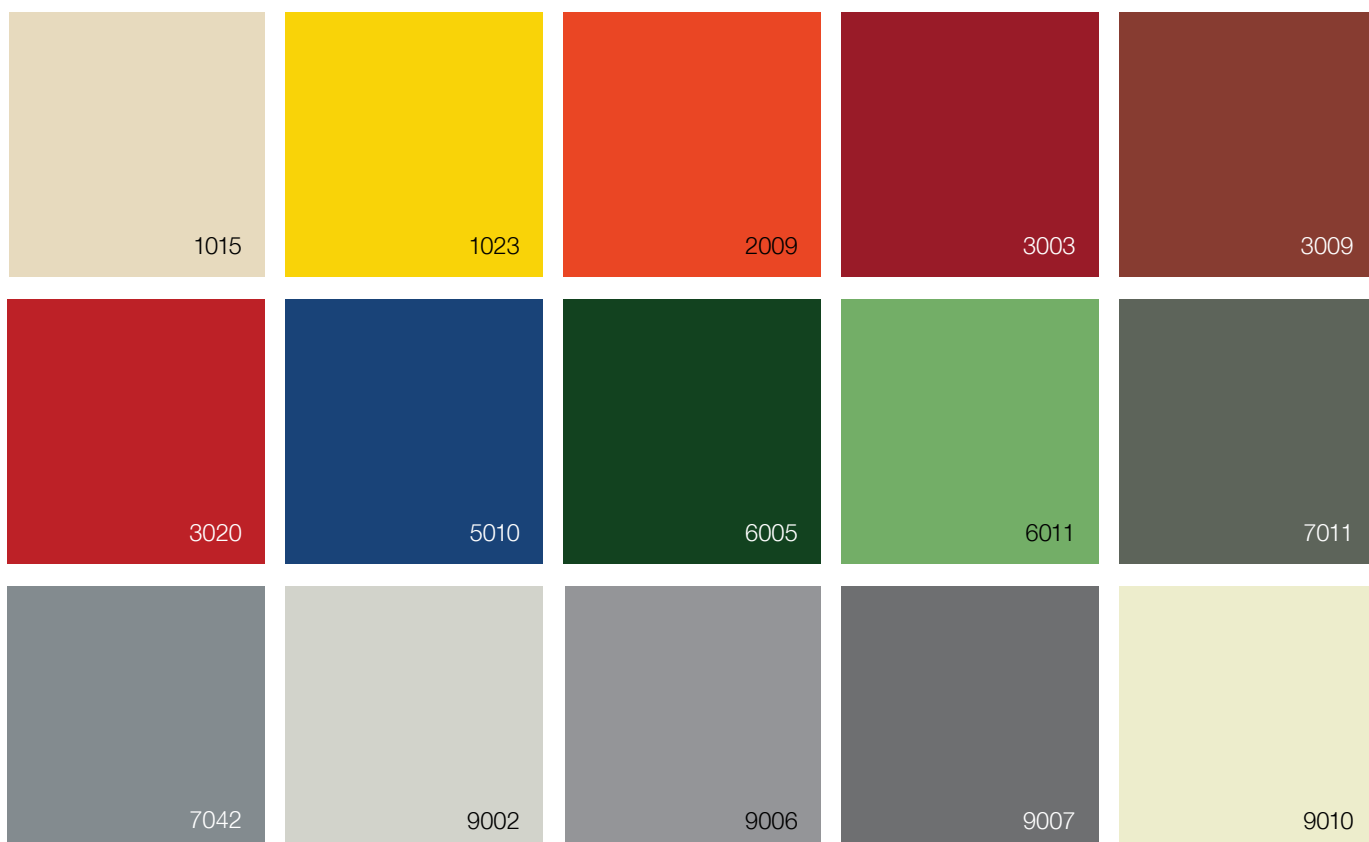
Standard coating

Polyester total thickness 25µm (EN 10169)

Alternative coatings

Polyvinylidene-Fluoride (PVDF) / special coatings (upon request)

Color palette (RAL range)



The steel sheets with Polyester (SP) coating are in stock in the basic colours of the RAL scale. For steel sheets with different coating and other colour range please contact the sales department.

Tables of maximum permitted openings for roof panels



ECOPANEL RL 50

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 50\text{mm}$, face #1 up (profiled) - "Snow load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,73	2,15	2,64	2,36	2,15	1,99	1,86	1,76	1,67	1,59	1,52	1,41
Two spans 	3,71	3,03	2,62	2,35	2,14	1,98	1,86	1,75	1,66	1,58	1,52	1,40
Three spans 	4,15	3,39	2,93	2,62	2,40	2,22	2,08	1,96	1,86	1,77	1,69	1,57

ECOPANEL RL 50

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 50\text{mm}$, face #2 up (flat) - "Suction Load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,87	3,16	2,74	2,45	2,24	2,07	1,94	1,83	1,73	1,65	1,58	1,46
Two spans 	3,71	3,03	2,62	2,35	2,14	1,98	1,86	1,75	1,66	1,58	1,52	1,40
Three spans 	4,15	3,39	2,93	2,62	2,40	2,22	2,08	1,96	1,86	1,77	1,69	1,57

Tables of maximum permitted openings for roof panels



ECOPANEL RL 60

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 60\text{mm}$, face #1 up (profiled) - "Snow load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,02	2,68	2,84	2,54	2,32	2,15	2,01	1,89	1,80	1,71	1,64	1,52
Two spans 	4,01	3,27	2,83	2,53	2,31	2,14	2,00	1,89	1,79	1,71	1,64	1,51
Three spans 	4,48	3,66	3,17	2,83	2,59	2,39	2,24	2,11	2,00	1,91	1,83	1,69

ECOPANEL RL 60

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 60\text{mm}$, face #2 up (flat) - "Suction Load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,96	3,23	2,80	2,50	2,29	2,12	1,98	1,87	1,77	1,69	1,62	1,50
Two spans 	4,01	3,27	2,83	2,53	2,31	2,14	2,00	1,89	1,79	1,71	1,64	1,51
Three spans 	4,48	3,66	3,17	2,83	2,59	2,39	2,24	2,11	2,00	1,91	1,83	1,69

Tables of maximum permitted openings for roof panels



ECOPANEL RL 80

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 80\text{mm}$, face #1 up (profiled) - "Snow load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,59	3,75	3,25	2,90	2,65	2,45	2,30	2,16	2,05	1,96	1,87	1,74
Two spans 	4,59	3,75	3,25	2,90	2,65	2,45	2,30	2,16	2,05	1,96	1,87	1,74
Three spans 	5,13	4,19	3,63	3,25	2,96	2,74	2,57	2,42	2,30	2,19	2,10	1,94

ECOPANEL RL 80

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 80\text{mm}$, face #2 up (flat) - "Suction Load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,13	3,37	2,92	2,61	2,38	2,21	2,07	1,95	1,85	1,76	1,69	1,56
Two spans 	4,59	3,75	3,25	2,90	2,65	2,45	2,30	2,16	2,05	1,96	1,87	1,74
Three spans 	5,13	4,19	3,63	3,25	2,96	2,74	2,57	2,42	2,30	2,19	2,10	1,94

Tables of maximum permitted openings for roof panels



ECOPANEL RL 100

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 100\text{mm}$, face #1 up (profiled) - "Snow load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,89	3,99	3,46	3,09	2,82	2,61	2,44	2,30	2,19	2,08	2,00	1,85
Two spans 	4,98	4,07	3,52	3,15	2,88	2,66	2,49	2,35	2,23	2,12	2,03	1,88
Three spans 	5,57	4,55	3,94	3,52	3,22	2,98	2,78	2,63	2,49	2,37	2,27	2,10

ECOPANEL RL 100

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 100\text{mm}$, face #2 up (flat) - "Suction Load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,39	3,58	3,10	2,78	2,53	2,35	2,20	2,07	1,96	1,87	1,79	1,66
Two spans 	4,98	4,07	3,52	3,15	2,88	2,66	2,49	2,35	2,23	2,12	2,03	1,88
Three spans 	5,49	4,48	3,88	3,47	3,17	2,93	2,74	2,59	2,45	2,34	2,24	2,07

Tables of maximum permitted openings for roof panels



ECOPANEL RL 120

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 120$ mm, face #1 up (profiled) - "Snow load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,33	3,75	3,35	3,06	2,83	2,65	2,50	2,37	2,26	2,16	2,00	1,87
Two spans 	4,31	3,73	3,33	3,04	2,82	2,64	2,49	2,36	2,25	2,15	1,99	1,86
Three spans 	4,81	4,17	3,73	3,40	3,15	2,95	2,78	2,64	2,51	2,41	2,23	2,08

ECOPANEL RL 120

Steel sheet thickness $t = 0,50 / 0,50$ mm

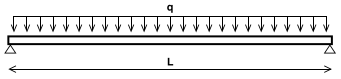
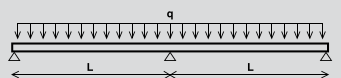
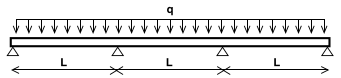
$d_c = 120$ mm, face #2 up (flat) - "Suction Load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,33	3,75	3,35	3,06	2,83	2,65	2,50	2,37	2,26	2,16	2,00	1,87
Two spans 	4,31	3,73	3,33	3,04	2,82	2,64	2,49	2,36	2,25	2,15	1,99	1,86
Three spans 	4,81	4,17	3,73	3,40	3,15	2,95	2,78	2,64	2,51	2,41	2,23	2,08

Tables of maximum permitted openings for roof panels



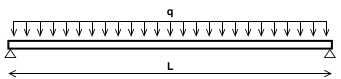
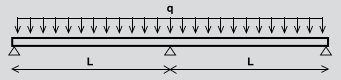
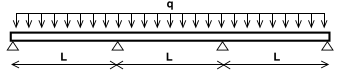
ECOPANEL RL 150

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 150\text{mm}$, face #1 up (profiled) - "Snow load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,74	4,10	3,67	3,35	3,10	2,90	2,74	2,60	2,47	2,37	2,19	2,05
Two spans 	4,54	3,93	3,51	2,31	2,97	2,78	2,62	2,49	2,37	2,27	2,10	1,96
Three spans 	5,07	4,39	3,93	3,59	3,32	3,11	2,93	2,78	2,65	2,54	2,35	2,30

ECOPANEL RL 150

Steel sheet thickness $t = 0,50 / 0,50$ mm

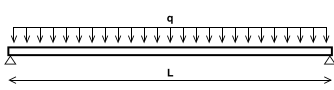
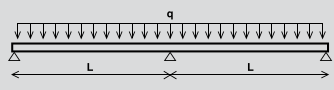
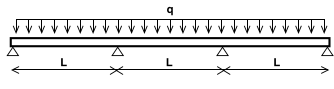
$d_c = 150\text{mm}$, face #2 up (flat) - "Sunction Load"												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,74	4,10	3,67	3,35	3,10	2,90	2,74	2,60	2,47	2,37	2,19	2,05
Two spans 	4,54	3,93	3,51	2,31	2,97	2,78	2,62	2,49	2,37	2,27	2,10	1,96
Three spans 	5,07	4,39	3,93	3,59	3,32	3,11	2,93	2,78	2,65	2,54	2,35	2,30

Tables of maximum permitted openings for concealed fix wall panel



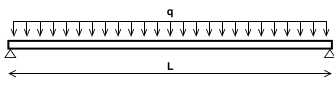
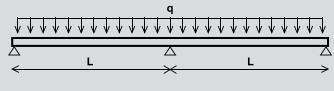
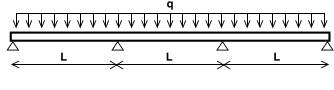
ECOPANEL WLC 50

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 50\text{mm}$, face #1 up (flat) - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	2,54	2,07	1,80	1,61	1,47	1,36	1,27	1,20	1,14	1,08	1,04	0,96
Two spans 	2,22	1,81	1,57	1,40	1,28	1,19	1,11	1,05	0,99	0,95	0,91	0,84
Three spans 	2,48	2,02	1,75	1,57	1,43	1,33	1,24	1,17	1,11	1,06	1,01	0,94

ECOPANEL WLC 50

Steel sheet thickness $t = 0,50 / 0,50$ mm

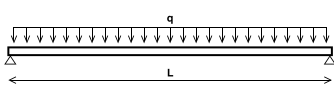
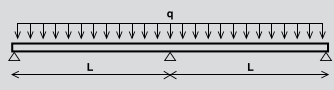
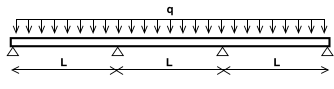
$d_c = 50\text{mm}$, face #2 up (waved) - Compressed side#2												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	2,86	2,33	2,02	1,81	1,65	1,53	1,43	1,35	1,28	1,22	1,17	1,08
Two spans 	2,22	1,81	1,57	1,40	1,28	1,19	1,11	1,05	0,99	0,95	0,91	0,84
Three spans 	2,48	2,02	1,75	1,57	1,43	1,33	1,24	1,17	1,11	1,06	1,01	0,94

Tables of maximum permitted openings for concealed fix wall panel



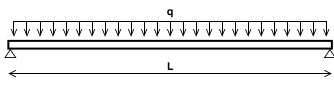
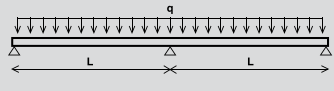
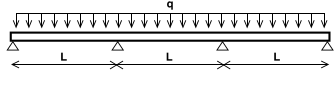
ECOPANEL WLC 60

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 60\text{mm}$, face #1 up (flat) - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,03	2,47	2,14	1,91	1,75	1,62	1,51	1,43	1,35	1,29	1,24	1,14
Two spans 	2,61	2,13	1,85	1,65	1,51	1,40	1,31	1,23	1,17	1,11	1,07	0,99
Three spans 	2,92	2,39	2,07	1,85	1,69	1,56	1,46	1,38	1,31	1,25	1,19	1,10

ECOPANEL WLC 60

Steel sheet thickness $t = 0,50 / 0,50$ mm

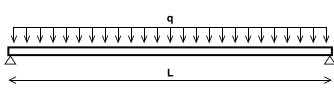
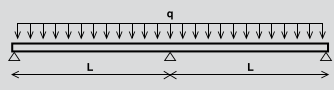
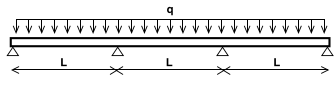
$d_c = 60\text{mm}$, face #2 up (waved) - Compressed side#2												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,15	2,57	2,23	1,99	1,82	1,68	1,57	1,48	1,41	1,34	1,29	1,19
Two spans 	2,61	2,13	1,85	1,65	1,51	1,40	1,31	1,23	1,17	1,11	1,07	0,99
Three spans 	2,92	2,39	2,07	1,85	1,69	1,56	1,46	1,38	1,31	1,25	1,19	1,10

Tables of maximum permitted openings for concealed fix wall panel



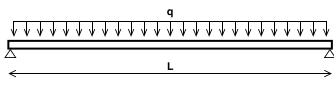
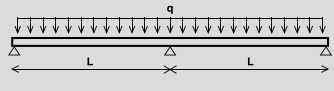
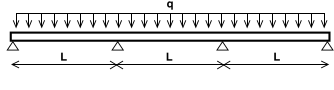
ECOPANEL WLC 80

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 80$ mm, face #1 up (flat) - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,00	3,26	2,83	2,53	2,31	2,14	2,00	1,88	1,79	1,70	1,63	1,51
Two spans 	3,40	2,78	2,41	2,15	1,96	1,82	1,70	1,60	1,52	1,45	1,39	1,29
Three spans 	3,80	3,11	2,69	2,41	2,20	2,03	1,90	1,79	1,70	1,62	1,55	1,44

ECOPANEL WLC 80

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 80$ mm, face #2 up (waved) - Compressed side#2												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,74	3,05	2,64	2,36	2,16	2,00	1,87	1,76	1,67	1,59	1,53	1,41
Two spans 	3,40	2,78	2,41	2,15	1,96	1,82	1,70	1,60	1,52	1,45	1,39	1,29
Three spans 	3,80	3,11	2,69	2,41	2,20	2,03	1,90	1,79	1,70	1,62	1,55	1,44

Tables of maximum permitted openings for concealed fix wall panel



ECOPANEL WLC 100

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 100\text{mm}$, face #1 up (flat) - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,58	2,93	2,53	2,27	2,07	1,92	1,79	1,69	1,60	1,53	1,46	1,35
Two spans 	3,61	2,95	2,55	2,28	2,08	1,93	1,80	1,70	1,61	1,54	1,47	1,36
Three spans 	4,03	3,29	2,85	2,55	2,33	2,16	2,02	1,90	1,80	1,72	1,65	1,53

ECOPANEL WLC 100

Steel sheet thickness $t = 0,50 / 0,50$ mm

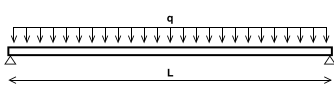
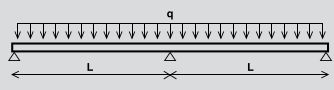
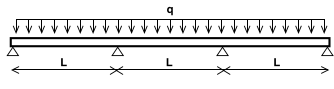
$d_c = 100\text{mm}$, face #2 up (waved) - Compressed side#2												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,69	3,02	2,61	2,34	2,13	1,97	1,85	1,74	1,65	1,58	1,51	1,40
Two spans 	3,61	2,95	2,55	2,28	2,08	1,93	1,80	1,70	1,61	1,54	1,47	1,36
Three spans 	4,03	3,29	2,85	2,55	2,33	2,16	2,02	1,90	1,80	1,72	1,65	1,53

Tables of maximum permitted openings for concealed fix wall panel



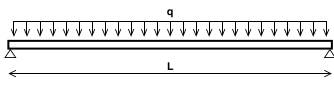
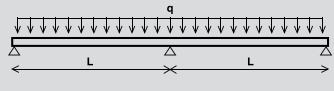
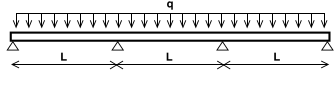
ECOPANEL WLC 120

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 120\text{mm}$, face #1 up (flat) - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,33	2,88	2,58	2,35	2,18	2,04	1,92	1,82	1,74	1,66	1,54	1,44
Two spans 	3,35	2,90	2,59	2,37	2,19	2,05	1,93	1,83	1,75	1,67	1,55	1,45
Three spans 	3,74	3,24	2,90	2,65	2,45	2,29	2,16	2,05	1,95	1,87	1,73	1,62

ECOPANEL WLC 120

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 120\text{mm}$, face #2 up (waved) - Compressed side#2												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,33	2,88	2,58	2,35	2,18	2,04	1,92	1,82	1,74	1,66	1,54	1,44
Two spans 	3,35	2,90	2,59	2,37	2,19	2,05	1,93	1,83	1,75	1,67	1,55	1,45
Three spans 	3,74	3,24	2,90	2,65	2,45	2,29	2,16	2,05	1,95	1,87	1,73	1,62

Tables of maximum permitted openings for concealed fix wall panel



ECOPANEL WLC 150

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 150$ mm, face #1 up (flat) - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,73	3,23	2,89	2,64	2,44	2,28	2,15	2,04	1,95	1,86	1,73	1,61
Two spans 	3,74	3,24	2,90	2,37	2,45	2,29	2,16	2,05	1,95	1,87	1,73	1,62
Three spans 	4,18	3,62	3,24	2,96	2,74	2,56	2,42	2,29	2,18	2,09	1,94	1,81

ECOPANEL WLC 150

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 150$ mm, face #2 up (waved) - Compressed side#2												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,73	3,23	2,89	2,64	2,44	2,28	2,15	2,04	1,95	1,86	1,73	1,61
Two spans 	3,74	3,24	2,90	2,37	2,45	2,29	2,16	2,05	1,95	1,87	1,73	1,62
Three spans 	4,18	3,62	3,24	2,96	2,74	2,56	2,42	2,29	2,18	2,09	1,94	1,81

Tables of maximum permitted openings for visible fix wall panels



ECOPANEL WL 50

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 50\text{mm}$, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	2,13	1,74	1,51	1,35	1,23	1,14	1,07	1,01	0,95	0,91	0,87	0,81
Two spans 	1,70	1,39	1,20	1,07	0,98	0,91	0,85	0,80	0,76	0,72	0,69	0,64
Three spans 	1,90	1,55	1,34	1,20	1,10	1,01	0,95	0,89	0,85	0,81	0,77	0,72

ECOPANEL WL 50

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 50\text{mm}$, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	1,47	1,20	1,04	0,93	0,85	0,78	0,73	0,69	0,66	0,63	0,60	0,55
Two spans 	1,70	1,39	1,20	1,07	0,98	0,91	0,85	0,80	0,76	0,72	0,69	0,64
Three spans 	1,83	1,50	1,30	1,16	1,06	0,98	0,92	0,86	0,82	0,78	0,75	0,69

Tables of maximum permitted openings for visible fix wall panels



ECOPANEL WL 60

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 60$ mm, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	2,73	2,23	1,93	1,73	1,58	1,46	1,37	1,29	1,22	1,17	1,12	1,03
Two spans 	2,29	1,87	1,62	1,45	1,32	1,22	1,14	1,08	1,02	0,97	0,93	0,86
Three spans 	2,56	2,09	1,81	1,62	1,48	1,37	1,28	1,20	1,14	1,09	1,04	0,97

ECOPANEL WL 60

Steel sheet thickness $t = 0,50 / 0,50$ mm

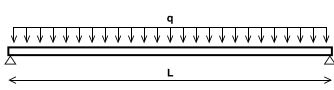
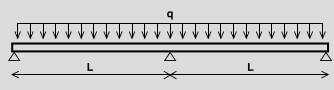
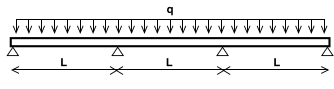
$d_c = 60$ mm, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	2,13	1,74	1,51	1,35	1,23	1,14	1,06	1,00	0,95	0,91	0,87	0,80
Two spans 	2,29	1,87	1,62	1,45	1,32	1,22	1,14	1,08	1,02	0,97	0,93	0,86
Three spans 	2,51	2,05	1,78	1,59	1,45	1,34	1,26	1,18	1,12	1,07	1,03	0,95

Tables of maximum permitted openings for visible fix wall panels



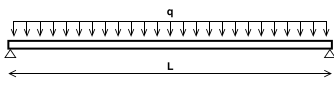
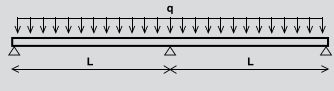
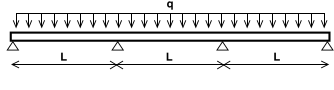
ECOPANEL WL 80

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 80\text{mm}$, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,94	3,21	2,78	2,49	2,27	2,10	1,97	1,86	1,76	1,68	1,61	1,49
Two spans 	3,46	2,83	2,45	2,19	2,00	1,85	1,73	1,63	1,55	1,48	1,41	1,31
Three spans 	3,87	3,16	2,74	2,45	2,24	2,07	1,94	1,83	1,73	1,65	1,58	1,46

ECOPANEL WL 80

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 80\text{mm}$, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,45	2,82	2,44	2,18	1,99	1,85	1,73	1,63	1,54	1,47	1,41	1,31
Two spans 	3,46	2,83	2,45	2,19	2,00	1,85	1,73	1,63	1,55	1,48	1,41	1,31
Three spans 	3,87	3,16	2,74	2,45	2,24	2,07	1,94	1,83	1,73	1,65	1,58	1,46

Tables of maximum permitted openings for visible fix wall panels



ECOPANEL WL 100

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 100\text{mm}$, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,53	3,70	3,21	2,87	2,62	2,42	2,27	2,14	2,03	1,93	1,85	1,71
Two spans 	3,69	3,02	2,61	2,34	2,13	1,97	1,85	1,74	1,65	1,58	1,51	1,40
Three spans 	4,13	3,37	2,92	2,61	2,38	2,21	2,06	1,95	1,85	1,76	1,69	1,56

ECOPANEL WL 100

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 100\text{mm}$, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,31	3,52	3,05	2,72	2,49	2,30	2,15	2,03	1,93	1,84	1,76	1,63
Two spans 	3,69	3,02	2,61	2,34	2,13	1,97	1,85	1,74	1,65	1,58	1,51	1,40
Three spans 	4,13	3,37	2,92	2,61	2,38	2,21	2,06	1,95	1,85	1,76	1,69	1,56

Tables of maximum permitted openings for visible fix wall panels



ECOPANEL WL 120

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 120\text{mm}$, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,87	3,36	3,00	2,74	2,54	2,37	2,24	2,12	2,02	1,94	1,79	1,68
Two spans 	3,91	3,39	3,03	2,77	2,56	2,40	2,26	2,14	2,04	1,96	1,81	1,69
Three spans 	4,37	3,79	3,39	3,09	2,86	2,68	2,53	2,40	2,28	2,19	2,08	1,89

ECOPANEL WL 120

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 120\text{mm}$, face #1 up - Compressed side #1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	3,87	3,36	3,00	2,74	2,54	2,37	2,24	2,12	2,02	1,94	1,79	1,68
Two spans 	3,91	3,39	3,03	2,77	2,56	2,40	2,26	2,14	2,04	1,96	1,81	1,69
Three spans 	4,37	3,79	3,39	3,09	2,86	2,68	2,53	2,40	2,28	2,19	2,08	1,89

Tables of maximum permitted openings for visible fix wall panels



ECOPANEL WL 150

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 150$ mm, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,26	3,69	3,30	3,02	2,79	2,61	2,46	2,34	2,23	2,13	1,97	1,85
Two spans 	4,32	3,74	3,35	3,06	2,83	2,65	2,50	2,37	2,26	2,16	2,00	1,87
Three spans 	4,83	4,19	3,74	3,42	3,16	2,96	2,79	2,65	2,52	2,42	2,24	2,09

ECOPANEL WL 150

Steel sheet thickness $t = 0,50 / 0,50$ mm

$d_c = 150$ mm, face #1 up - Compressed side#1												
Uniformly distributed load (kN/m ²)												
Static System	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3	3,5	4
	Maximum span (m)											
Single span 	4,26	3,69	3,30	3,02	2,79	2,61	2,46	2,34	2,23	2,13	1,97	1,85
Two spans 	4,32	3,74	3,35	3,06	2,83	2,65	2,50	2,37	2,26	2,16	2,00	1,87
Three spans 	4,83	4,19	3,74	3,42	3,16	2,96	2,79	2,65	2,52	2,42	2,24	2,09



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