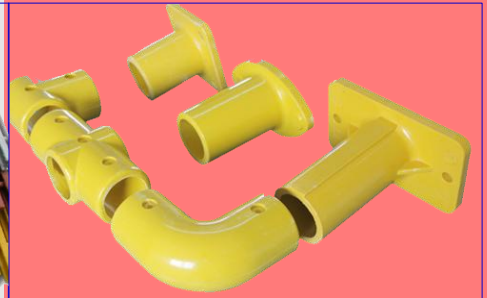
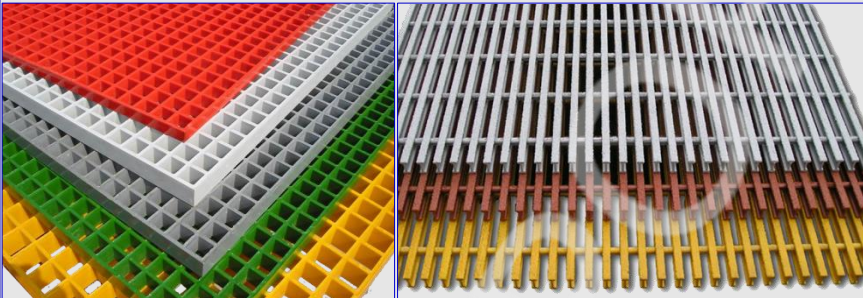


Total Solution For FRP Grating

Molded Grating
Pultruded Grating
Pultruded Profiles



그레이팅 개요	2
수지(Resin) System	3
Molded 그레이팅 크기 및 세부사항	4 – 6
Pultruded 그레이팅 크기 및 세부사항	7
Surface Type	8
화학물성치	9 – 11
Loading Data	12 – 17
설치가이드(Clip)	18
Profiles Type	19 – 20

■ 그레이팅 개요

MOLDED GRATING

Molded 그레이팅은 양방향으로의 우수한 기계적 물성치를 가진 수지를 충분히 용융하여, 유리섬유(Fiberglass)를 가로 및 세로방향으로 끊어짐없이 연속적으로 배열하여 만듭니다.

이에 놀라울만큼 강한 강도는 물론이고, 내부식성, 반영구적사용 그리고 안전성 등, Molded 그레이팅은 믿음직한 최고의 제품입니다.

PULTRUDED PROFILES

Pultrusion(인발성형)은 열경화성 수지와 Fiberglass를 사용하는 연속공정입니다.

연속적으로 유리섬유와 섬유매트를 수지가 담겨진 곳으로 통과시킨후, 예열된 금형을 통해 모양을 생성한다.

놀라울 정도의 강도, 질감 및 밀도가 우수하기에, 설치하고자 하는 곳의 거리가 넓을 경우에 많이 사용됩니다.

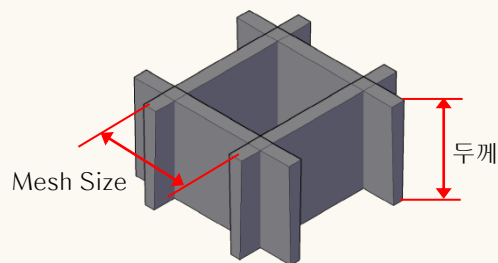
► Resin System

No	Resin Type	Resin Base	Description	내부식성	최대온도(℃)	Remark
1	Type V	Vinyl Ester	우수한 내부식성 및 불연소	Excellent	110	
2	Type I	Isophthalic	산업용 내부식성 및 불연소	Very Good	105	
3	Type O	Orthophthalic	일반적인 내부식성 및 불연소	Normal	70	

※ 장점

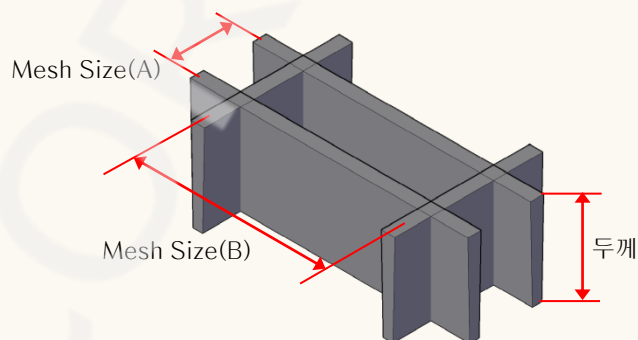
1. 내부식성
2. 미끄럼방지기능
3. 경량이지만, 무거운 중량에 견딤
4. 다양한 사이즈 및 색상
5. 쉬운 설치 및 유지보수

MOLDED 그레이팅



▶ Square Mesh

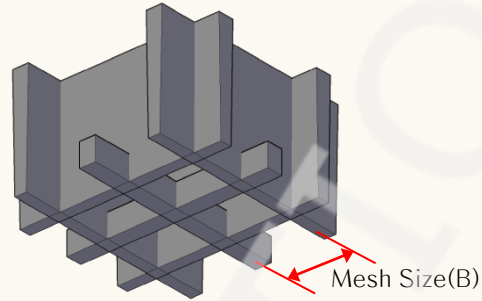
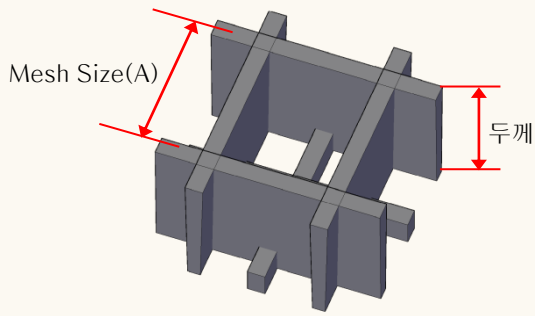
번호	두께(mm)	Mesh Size(mm)	Bar두께(mm)	판넬 크기	비고
1	13	50X50	7/5	1220*3660	
2	20	38X38	7/5	1220*3660	
3	25	38X38	7/5	1220*3660	
4	25	40X40	7/5	1247*4047	
5	30	38X38	7/5	1524.5*4000.5 1220*3660	
6	30	40X40	7/5	1007*4047	
7	38	38X38	7/5	1525*4000.5 1220*3660 997*3660	
8	40	40X40	7/5	1247*4047 1007*3007 1007*4047	
9	50	50X50	7/5	1525*4025 1220*3660 1220*4025	
10	63	38X38	11.5/9	1220*3660	



▶ Rectangular Mesh

번호	두께(mm)	Mesh Size(mm) AXB	Bar두께(mm)	판넬 크기	비고
1	25	25X100	9.8/5	1220X3660	
2	38	38X152	7/5	572X3660	
3	38	25.4X152.4	7/5	1220X3660	
4	38	38.1X101.6	7/5	1220X3660	

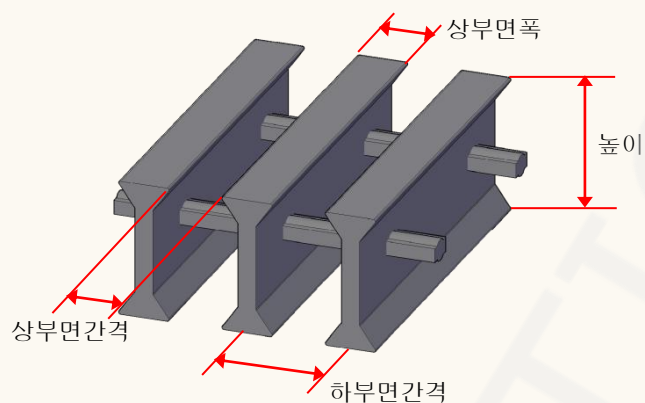
MOLDED 그레이팅



▶ Mini Mesh

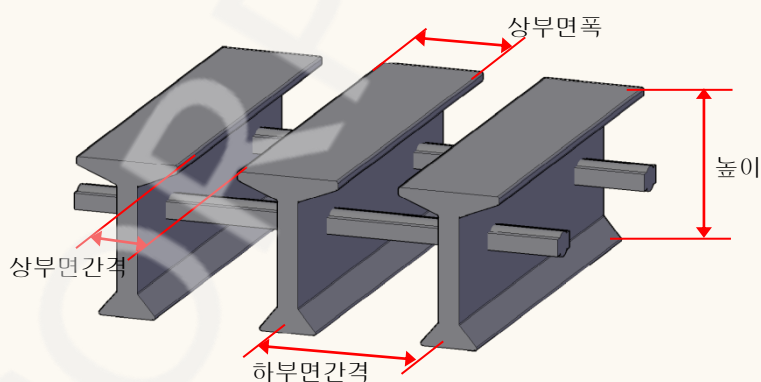
번호	두께(mm)	Mesh Size(mm) AX(B)	Bar두께(mm)	판넬크기	비고
1	22	40X40(20X20)	7/5	1527X4047	
2	30	40X40(20X20)	7/5	1007X4047 1007X3007	
3	38	40X40(20X20)	7/5	1527X4047	
4	38	38X38(19X19)	7/5	1220X3660	
5	30	38X38(19X19)	7/5	1220X3660	
6	25	50X50(25X25)	7/5	1226X3666	
7	38	50X50(25X25)	7/5	1226X3666	

PULTRUDED 그레이팅



Pultruded Mesh(I Type)

번호	높이(mm)	상부면 폭(mm)	상부면 간격(mm)	하부면 간격(mm)	비고
1	25	15	22.5	38	
2	25	15	15	30	
3	25	15	10	25	
4	38	15	22.5	38	
5	38	15	15	30	
6	38	15	10	25	



Pultruded Mesh(T Type)

번호	높이(mm)	상부면 폭(mm)	상부면 간격(mm)	하부면 간격(mm)	비고
1	25	41.3	9.5	50.8	
2	25	41.3	19.7	61	
3	50	25	12.5	38	
4	50	25	25	50	

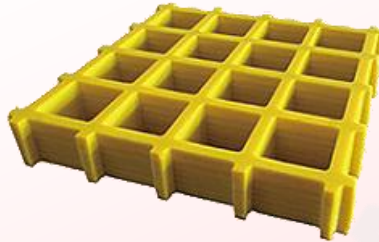
▶ Surface Type

1. Normal Grating



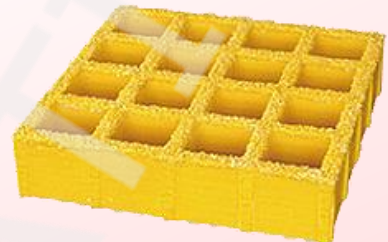
Concave Type

그레이팅 상부의 가장자리를 제외한 중심방향으로 오목하게 들어간 형태임.



Normal Type

상부가 평평한 형태임.



Gritted Type

그레이팅 상부에 작은 모래 알갱이가 뿌려진 형태임.

1. Covered Grating



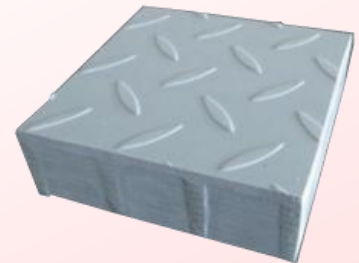
Mirror Cover Type

깔끔한 유지관리가 용이함..



Grit Cover Surface

미끄럼방지.



Pattern Plate Type

외관이 아름다움.

그레이팅 PROPERTIES

▶ 화학 물성치

Corrosion Resistance								
번호	화학약품	Vinyl Ester		Isophthalic		Orthophthalic		비고
		농도(%)	최대 사용온도	농도(%)	최대 사용온도	농도(%)	최대 사용온도	
1	Acetic Acid	50	82	50	52	5	25	
2	Aluminum Hydroxide	100	82	100	71	ALL	-	
3	Ammonium Chloride	ALL	99	ALL	77	ALL	-	
4	Ammonium Bicarbonate	50	70	15	52	ALL	-	
5	Methacrylic Acid	99	35	-	-	-	-	
6	Ammonium Hydroxide	28	38	28	N/R	ALL	N/R	
7	Ammonium Sulphate	ALL	99	ALL	77	ALL	-	
8	Benzene	100	40	ALL	N/R	ALL	N/R	
9	Benzoic Acid	SAT	99	SAT	66	ALL	25	
10	Borax	SAT	99	SAT	77	SAT	45	
11	Calcium Carbide	ALL	82	ALL	77	ALL	-	
12	Calcium Nitrate	ALL	99	ALL	82	ALL	-	
13	Carbon Tetrachloride	100	40	100	N/R	100	N/R	
14	Chlorine, Dry Gas	-	99	-	60	-	N/R	
15	Chlorine Water	SAT	93	SAT	27	SAT	N/R	
16	Chromic Acid	10	65	5	21	5	N/R	
17	Citric Acid	ALL	99	ALL	77	ALL	25	
18	Calcium Chloride	ALL	99	ALL	77	ALL	40	
19	Copper Cyanide	ALL	99	ALL	77	ALL	25	
20	Copper Nitrate	ALL	99	ALL	77	ALL	-	
21	Ethanol	10	82	50	24	10	25	
22	Ethylene Glycol	100	93	100	32	100	40	
23	Hydrofluoric Acid	10	65	-	-	-	-	
24	Ferric Chloride	ALL	99	ALL	77	ALL	40	
25	Ferrous Chloride	ALL	99	ALL	77	ALL	30	
26	Formaldehyde	37	60	50	24	25	30	
27	Gasoline	100	82	100	24	100	35	

그레이팅 PROPERTIES

▶ 화학 물성치

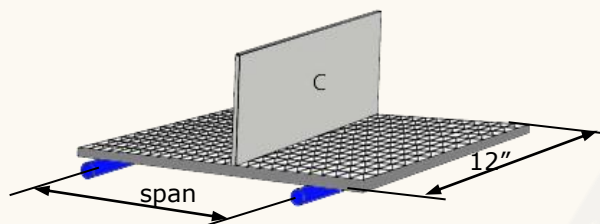
Corrosion Resistance								
번호	화학약품	Vinyl Ester		Isophthalic		Orthophthalic		비고
		농도(%)	최대 사용온도	농도(%)	최대 사용온도	농도(%)	최대 사용온도	
1	Glucose	100	99	100	77	ALL	-	
2	Glycerine	100	99	100	66	100	-	
3	Hydrobromic Acid	50	65	50	49	18	-	
4	Hydrochloric Acid	37	65	37	24	10	30	
	Hydrogen Peroxide	30	65	5	38	5	N/R	
	Lactic Acid	ALL	99	ALL	77	ALL	25	
	Lithium Chloride	SAT	99	SAT	66	ALL	-	
	Magnesium Chloride	ALL	99	ALL	77	ALL	40	
	Magnesium Nitrate	ALL	99	ALL	60	ALL	30	
	Magnesium Sulphate	ALL	99	ALL	77	ALL	40	
	Mercuric Chloride	100	99	100	66	100	40	
	Mercurous Chloride	ALL	99	ALL	60	ALL	40	
	Nickel Chloride	ALL	99	ALL	77	ALL	40	
	Nickel Sulphate	ALL	99	ALL	77	ALL	40	
	Nitric Acid	20	54	20	21	20	N/R	
	Oxalic Acid	ALL	99	ALL	24	ALL	N/R	
	Perchloric Acid	30	38	10	N/R	10	N/R	
	Phosphoric Acid	100	99	100	49	80	N/R	
	Potassium Chloride	ALL	99	ALL	77	ALL	40	
	Potassium Dichromate	ALL	99	ALL	77	ALL	25	
	Potassium Nitrate	ALL	99	ALL	77	ALL	40	
	Potassium Sulphate	ALL	99	ALL	77	ALL	40	
	Propylene Glycol	ALL	99	ALL	77	ALL	40	
	Sodium Acetate	ALL	99	ALL	71	ALL	40	
	Sodium Bisulphate	ALL	99	ALL	77	ALL	-	
	Sodium Bromide	ALL	99	ALL	77	5	-	
	Sodium Cyanide	ALL	99	ALL	77	5	N/R	

그레이팅 PROPERTIES

▶ 화학 물성치

Corrosion Resistance								
번호	화학약품	Vinyl Ester		Isophthalic		Orthophthalic		비고
		농도(%)	최대 사용온도	농도(%)	최대 사용온도	농도(%)	최대 사용온도	
	Sodium Hydroxide	25	82	N/R	N/R	N/R	N/R	
	Sodium Nitrate	ALL	99	ALL	77	ALL	40	
	Sodium Sulphate	ALL	99	ALL	77	ALL	40	
	Stannic Chloride	ALL	99	ALL	71	ALL	40	
	Sulfuric Acid	50	80	25	24	10	-	
	Tartaric Acid	ALL	99	ALL	77	ALL	-	
	Vinegar	100	99	100	77	ALL	-	
	Methanol	10	84	N/R	N/R	N/R	N/R	
	Sea Water	ALL	99	ALL	70	ALL	45	
	Water-Distilled	100	82	100	77	ALL	30	
	Zine Nitrate	ALL	99	ALL	77	ALL	40	
	Zine Sulfate	ALL	99	ALL	77	ALL	40	

Molded 그레이팅



Line Load Deflection Table

NO.01 H25 Mesh Size : 38X38

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.78	1.56	2.33	3.89	5.84	7.78	11.67		1213
700	2.03	4.06	6.09	10.15					867
900	4.17	8.34	12.51						674

NO.02 H25 Mesh Size : 40X40

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.81	1.62	2.44	4.06	6.09	8.12	12.18		1024
700	0.94	2.15	4.3	6.45	10.75				731
900	4.51	9.02	13.53						569

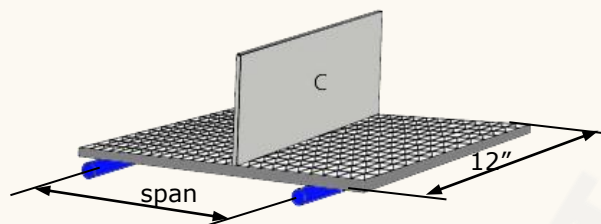
NO.03 H30 Mesh Size : 38X38

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.58	1.16	1.75	2.91	4.36	5.82	8.73	11.64	1386
700	1.47	2.95	4.42	7.36	11.04	14.73			919
900	3.05	6.11	9.16	15.26					715
1100	5.58	11.16							497

NO.04 H30 Mesh Size : 40X40

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.53	1.07	1.6	2.67	4	5.33	8	10.67	1136
700	1.38	2.76	4.14	6.91	10.36	13.81			811
900	2.83	5.67	8.5	14.17					631
1100	5.04	10.09	15.13						516

Molded 그레이팅



Line Load Deflection Table

NO.05 H38 Mesh Size : 38X38

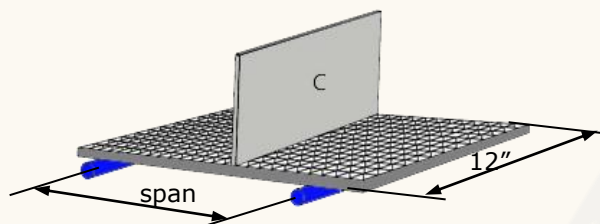
Load	Span in mm Load in kg/m ²								
Span	100	200	300	500	750	1000	1500	2000	Max Rec Load
500	0.23	0.46	0.7	1.16	1.74	2.32	3.48	4.64	1854
700	0.57	1.15	1.72	2.87	4.31	5.75	8.62	11.49	1325
900	1.16	2.31	3.47	5.79	8.68	11.57			1030
1100	2.09	4.18	6.28	10.46					843
1300	3.44	6.87	10.31						713

NO.06 H50 Mesh Size : 50X50

Load	Span in mm Load in kg/m ²								
Span	100	200	300	500	750	1000	1500	2000	Max Rec Load
500	0.12	0.24	0.37	0.61	0.92	1.22	1.83	2.44	4206
700	0.3	0.6	0.9	1.5	2.26	3.01	4.51	6.02	3004
900	0.62	1.23	1.85	3.09	4.63	6.17	9.26	12.34	2337
1100	1.1	2.2	3.3	5.5	8.26	11.01			1912
1300	1.78	3.56	5.34	8.9	13.35				1618
1500	2.7	5.41	8.11	13.51					1402

NO.07 H25 Mesh Size : 25X100

Load	Span in mm Load in kg/m ²								
Span	100	200	300	500	750	1000	1500	2000	Max Rec Load
500	0.5	1	1.51	2.51	3.77	5.02	7.53	10.04	1856
700	1.34	2.68	4.01	6.69	10.03	13.38			1326
900	2.77	4.54	8.31	13.86					1031
1100	5	9.99							844



Line Load Deflection Table

NO.08 H38 Mesh Size : 38X152

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.14	0.29	0.43	0.72	1.09	1.45	2.17	2.9	3269
700	0.34	0.69	1.03	1.72	2.57	3.43	5.15	6.86	2335
900	0.68	1.35	2.03	3.38	5.08	6.77	10.15	13.54	1816
1100	1.21	2.41	3.62	6.04	9.06	12.07			1486
1300	1.96	3.92	5.88	9.8	14.7				1257
1500	2.98	5.96	8.94	14.9					1090

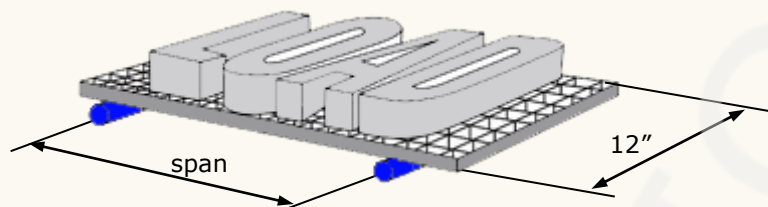
NO.09 H30 Mesh Size : 20X20 mini

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.35	0.7	1.04	1.74	2.61	3.48	5.22	6.96	1611
700	0.88	1.76	2.63	4.39	6.59	8.78	13.17		1150
900	1.82	3.63	5.45	9.08	13.62				895
1100	3.24	6.48							732

NO.10 H38 Mesh Size : 19X19 mini

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.18	0.36	0.53	0.89	1.33	1.77	2.66	3.54	2805
700	0.43	0.87	1.3	2.17	3.25	4.34	6.51	8.68	2004
900	0.87	1.73	2.6	4.33	6.5	8.67	13		1559
1100	1.53	3.06	4.59	7.66	11.48				1275
1300	2.48	4.96	7.43	12.39					1079
1500	3.77	7.53	11.3						935

Molded 그레이팅



Uniform Load Deflection Table

NO.01 H25 Mesh Size : 38X38

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.24	0.49	0.73	1.22	1.82	2.43	3.65	4.86	3106
700	0.89	1.77	2.66	4.44	6.65	8.87	13.31		1584
900	2.35	4.69	7.04	11.73					959

NO.02 H25 Mesh Size : 40X40

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.26	0.51	0.77	1.28	1.92	2.56	3.84	5.11	2601
700	0.94	1.89	2.83	4.72	7.08	9.43	14.15		1333
900	2.53	5.06	7.58	12.64					812

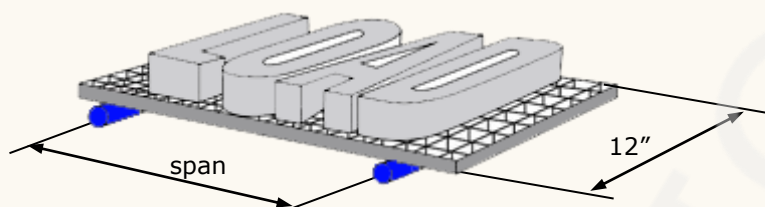
NO.03 H30 Mesh Size : 38X38

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.18	0.36	0.55	0.91	1.36	1.82	2.73	3.64	3293
700	0.64	1.29	1.93	3.22	4.83	6.44	9.66	12.89	1680
900	1.72	3.43	5.15	8.59	12.89				1016
1100	3.84	7.67	11.51						680

NO.04 H30 Mesh Size : 40X40

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.17	0.33	0.5	0.83	1.25	1.67	2.5	3.33	2907
700	0.61	1.21	1.82	3.03	4.54	6.05	9.08	12.1	1481
900	1.6	3.19	4.79	7.98	11.97	15.96			8971
1100	3.46	6.92	10.38						603

Molded 그레이팅



Uniform Load Deflection Table

NO.05 H38 Mesh Size : 38X38

Load	Span in mm Load in kg/m ²								
Span	100	200	300	500	750	1000	1500	2000	Max Rec Load
500	0.07	0.15	0.22	0.36	0.54	0.73	1.09	1.45	4747
700	0.25	0.5	0.75	1.26	1.89	2.51	3.77	5.03	2422
900	0.65	1.3	1.95	3.25	4.86	6.51	9.76	13.02	1465
1100	1.44	2.88	4.31	7.19	10.79	14.38			981
1300	2.79	5.58	8.38	13.96					702

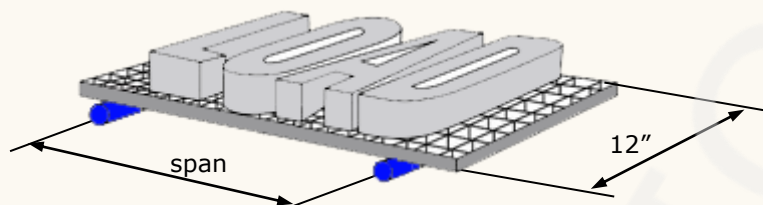
NO.06 H50 Mesh Size : 50X50

Load	Span in mm Load in kg/m ²								
Span	100	200	300	500	750	1000	1500	2000	Max Rec Load
500	0.04	0.08	0.11	0.19	0.29	0.38	0.57	0.76	10769
700	0.13	0.26	0.39	0.66	0.99	1.32	1.97	2.63	5494
900	0.35	0.69	1.04	1.74	2.6	3.47	5.21	6.94	3323
1100	0.76	1.51	2.27	3.78	5.67	7.57	11.35		2225
1300	1.45	2.89	4.34	7.23	10.84	14.46			1593
1500	2.53	5.07	7.6	12.67					1196

NO.07 H25 Mesh Size : 25X100

Load	Span in mm Load in kg/m ²								
Span	100	200	300	500	750	1000	1500	2000	Max Rec Load
500	0.16	0.31	0.47	0.78	1.18	1.57	2.35	3.14	4752
700	0.59	1.17	1.76	2.93	4.39	5.85	8.78	11.71	2425
900	1.56	3.12	4.68	7.79	11.69				1467
1100	3.43	6.87	10.3						982

Molded 그레이팅



Uniform Load Deflection Table

NO.08 H38 Mesh Size : 38X152

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.05	0.09	0.14	0.23	0.34	0.45	0.68	0.91	8368
700	0.15	0.3	0.45	0.75	1.13	1.5	2.25	3	4269
900	0.38	0.76	1.14	1.9	2.86	3.81	5.71	7.61	2583
1100	0.83	1.66	2.49	4.15	6.23	8.3	12.45		1729
1300	1.59	3.18	4.78	7.96	11.94				1238
1500	2.79	5.59	8.38	13.97					930

NO.09 H30 Mesh Size : 20X20 mini

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.11	0.22	0.33	0.54	0.82	1.09	1.63	2.18	4123
700	0.38	0.77	1.15	1.92	2.88	3.84	5.76	7.68	2104
900	1.02	2.04	3.06	5.11	7.66	10.21			1273
1100	2.23	4.45	6.68	11.13					852

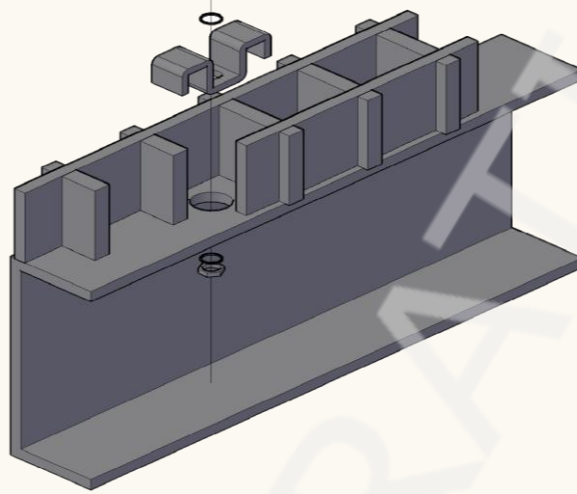
NO.10 H38 Mesh Size : 19X19 mini

Load	Span in mm Load in kg/m ²								Max Rec Load
Span	100	200	300	500	750	1000	1500	2000	
500	0.06	0.11	0.17	0.28	0.42	0.55	0.83	1.11	7182
700	0.19	0.38	0.57	0.95	1.42	1.9	2.85	3.8	3664
900	0.49	0.98	1.46	2.44	3.66	4.88	7.31	9.75	2217
1100	1.05	2.11	3.16	5.26	7.89	10.53			1484
1300	2.01	4.03	6.04	10.07					1062
1500	3.53	7.06	10.59						798

■ Molded 그레이팅

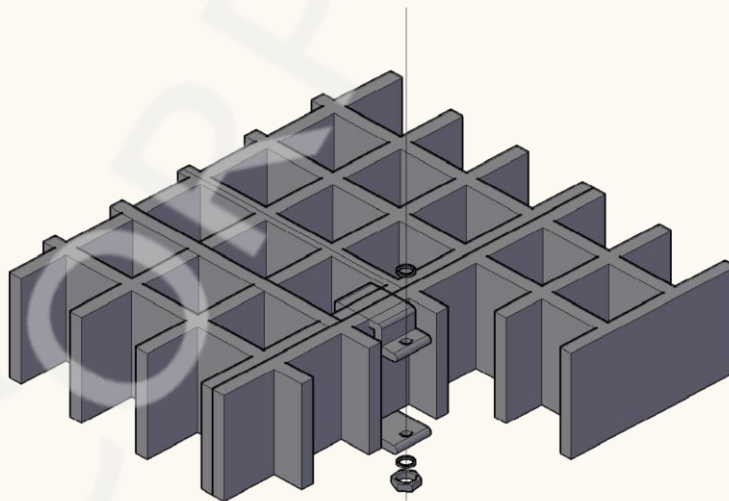
▶ Installation Guide

1. M Type



두군데 인접한 곳에 걸어서 고정시키는 형태로, 그레이팅의 움직임이 있을 것으로 우려되는 장소에 사용함.

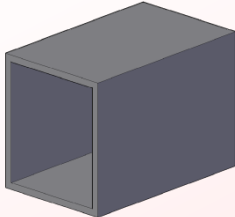
2. C Type

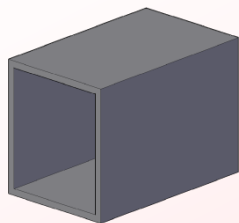


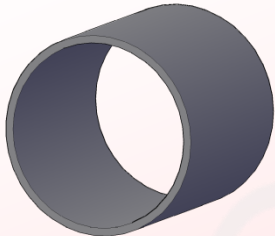
두 개의 끝부분을 서로 잡아주는 형태로, 간편하게 설치가 가능하나 힘을 받을 수 있는 거리를 고려해야 함.

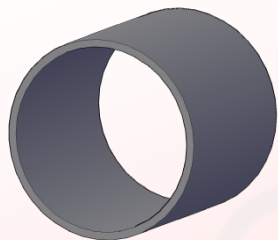
PULTRUDED PROFILES

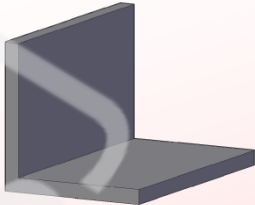
Profiles Type

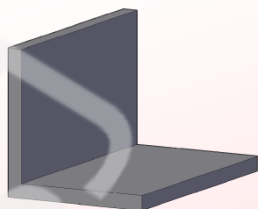
사각 파이프	치수				중량 (kg/m)	비고
	높이	폭	두께(A)	두께(B)		
	mm					
	25	25	3.0	3.0	0.469	
	32	32	4.0	4.0	0.829	
	38	38	4.0	4.0	0.949	
	38	38	4.0	4.0	1.000	
	44	44	6.0	6.0	1.732	
	50	30	3.5	3.5	0.770	
	50	30	3.5	3.5	0.925	
	50	50	3.5	3.5	1.204	
	50	50	4.0	4.0	1.362	
	50	50	5.0	5.0	1.665	
	54	54	5.0	5.0	1.813	
	64	64	6.4	6.4	2.570	
	75	75	6.0	6.0	3.104	
	80	30	4.0	4.0	1.520	
	87	32	6.4	6.4	1.851	
	100	50	6.4	6.4	2.520	
100	100	8.0	8.0	5.496		



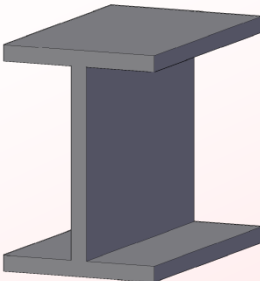
원형 파이프	치수			중량 (kg/m)	비고
	외경	두께	내경		
	mm				
	19	3	13	0.252	
	22.0	4.0	14.0	0.418	
	25.0	2.8	19.4	0.361	
	25.0	3.5	18.0	0.437	
	26.0	4.0	18.0	0.511	
	32.0	2.0	28.0	0.349	
	33.0	3.0	27.0	0.523	
	35.0	5.0	25.0	0.872	
	50.0	3.0	44.0	0.819	
	50	4	42.0	1.069	
	50.0	5.0	40.0	1.308	
	75.0	5.5	64.0	2.220	

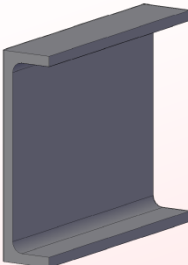


치수					중량 (kg/m)	비고
사각 파이프	높이	폭	두께(A)	두께(B)		
	mm					
	25	25	3	7.0	0.240	
	40	40	2.5	10.6	0.398	
	40	40	3.0	10.8	0.410	
	50	50	6.4	14.1	1.198	
	76	76	6.4	20.6	1.670	
	75	75	9.5	21.1	2.409	
	100	100	9.5	27.4	3.348	
	125	125	10.0	33.8	4.440	



FRP 그레이팅 CLIP

I Beam	치수				중량 (kg/m)	비고
	높이	폭	두께(A)	두께(B)		
	mm					
	25	15	4.0	4.0	0.348	
	28	15	4.0	4.0	0.470	
	32	27	5.0	5.0	0.503	
	38	15	4.0	4.0	0.469	
	40	30	3.0	3.0	0.555	
	58	15	4.0	4.0	0.677	
	70	15	6.0	6.0	0.840	
	102	51	6.4	6.4	2.545	
	150	125	10.0	10.0	7.200	
	152	76	6.4	6.4	3.260	
	200	100	10.0	10.0	7.400	
	203	203	12.0	12.0	13.350	
	250	125	12.0	12.0	10.175	
	250	125	12.0	12.0	11.000	
	305	152	12.0	12.0	14.000	

Channel	치수				중량 (kg/m)	비고
	높이	폭	두께(A)	두께(B)		
	mm					
	50	30	4.5	9.2	0.841	
	67	30	4.0	4.0	0.920	
	70	26	3.0	3.0	0.582	
	102	35	4.8	8.5	1.350	
	100	50	6.4	14.1	2.200	
	127	35	6.5	8.3	2.003	
	152	43	6.4	9.8	2.450	
	152	43	9.5	10.8	3.699	
	203	56	9.5	13.0	5.202	
	250	125	10.0	33.8	8.880	

주소

본사 : 경상남도 창원시 성산구 완암로50 메카동 601호

전화:+82-55-277-9821 팩스:+82-55-276-9821

1공장 : 부산광역시 기장군 정관면 산단4로 54

2공장 : 중국 난통 하이남시