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Ceramic Random Packing

Metal Random Packing

Plastic Random Packing



Directory

1.	Ceramic Random Packing.....	1
1.1	Ceramic Intalox Saddle(GCIS).....	1
1.2	Ceramic Supper Saddle (GCSS).....	4
1.3	Ceramic Raschig Ring (GCRR).....	5
1.4	Ceramic Berl Saddle (GCBS).....	6
1.5	Ceramic Pall Ring (GCPR).....	7
1.6	Ceramic Cross Partition Ring (GCCPR).....	8
1.7	Ceramic Cascade Mini Ring (GCCMR).....	9
2.	Metal Random Packing.....	10
2.1	General Introduction.....	10
2.2	Metal Pall Ring (GMPR).....	11
2.3	Metal Intalox Saddle (GMIS).....	12
2.4	Metal Raschig Ring (GMRR).....	13
2.5	Metal Cascade Mini Ring (GMCMR).....	14
2.6	Metal Nutter Ring (GMNR).....	15
3.	Plastic Random Packing.....	16
3.1	General Introduction.....	16
3.2	Plastic Pall Ring (GPPR).....	17
3.3	Plastic Rosette Ring (GPRR).....	18
3.4	Plastic Cascade Mini Ring (GPCMR).....	19
3.5	Plastic Saddle Ring (GPSR).....	20
3.6	Plastic Heilex Ring (GPHR).....	21
4.	Benefits.....	22
4.1	Outstanding Performance.....	22
4.2	Prompt Delivery	22
4.3	Economical packaging.....	22
4.4	Quick Shipment on Short Notice.....	22
4.5	Technical Support.....	22

1. Ceramic Random Packing

Our seven types of catalyst support spheres:

- Ceramic Intalox Saddle : GCIS
- Ceramic Supper Saddle : GCSS
- Ceramic Raschig Ring : GCRR
- Ceramic Pall Ring : GCPR
- Ceramic Cross Partition Ring : GCCPR
- Alumina Ball Media : GABM
- Cascade Mini Ring : GCMR

1.1 Ceramic Intalox Saddle (GCIS)

1.1.1 Brief introduction

GCIS-18 (Ceramic Saddles for chemical and petrochemical) is an industry standard random packing for Chemical and Petrochemical industry. Ceramic Saddles are most frequently used high-performance packing and exhibit advantages for most applications in comparison with other shapes. Their smooth surface imparts a high chemical resistance and provides Ceramic Intalox saddle rings (GCIS-18) with a high level of stability. Due to their simple form, ceramic saddles can be produced at a relatively low cost. GCIS-18 thus becomes the best choice economically.

GCIS-23 (Ceramic saddles for RTO industry) is designed for longer life and increased performance in thermal shock conditions or continuous high-temperature environments. GCIS-23 is particularly suited for RTO's (Regenerative Thermal Oxidizers), the saddles are fired at 1200°C and exhibit greatly enhanced resistance to breakage from extreme thermal conditions. In addition, the new saddles possess higher levels of chemical resistance (even at very high temperatures), as well as superior wetting characteristics, high mechanical strength, and outstanding resistance to abrasion.



Fig 1. Ceramic Intalox Saddle -18



Fig 2. Ceramic Intalox Saddle -23

1.1.2 Technical Parameter

TYPICAL CHEMICAL ANALYSIS (wt. %)	GCIS-18	GCIS-23
Alumina, Al ₂ O ₃	17– 20	20– 26
Al ₂ O ₃ +SiO ₂	>90	>90
Calcium, CaO	< 1	< 1
Titania, TiO ₂	< 2	< 2
Alkalies, K ₂ O + Na ₂ O	1 – 4	1 – 4
Magnesia, MgO	< 1	< 1
Leachable Iron	< 0.1	< 0.1
Leachable Sulphur	None Detected	None Detected
Leachable Chlorides	None Detected	None Detected

Table 1. Typical chemical analysis of GCIS-18 & GCIS-23

TYPICAL PHYSICAL PROPERTIES	GCIS-18	GCIS-23
Specific gravity	2.3	2.35
Water Absorption, wt. %	< 0.3	< 0.5
Hardness, Mohs'	6.5	7~8
Acid resistance	>99.8%	>99.8%
Operation temp.(max)	1100°C	1280-1320°C
Thermal conductivity (w/m.k)	0.9 - 1.0	0.9 - 1.0
Specific heat (j/kg°C)	850 - 900	850 - 900

Size in mm.	Weight (Kg/m ³)		Number (pc. / m ³)	Surface (m ² / m ³)	Free Vol. (%)
	GCIS-18	GCIS-23			
12 (1/2")	700	720	740000	620	73
19 (3/4")	660	690	230000	390	74
25 (1")	630	660	84000	255	74
38 (1 1/2")	580	630	25000	166	75
50 (2")	570	600	9300	120	77
76 (3")	560	580	2400	90	79

Table 2. Typical physical properties of GCIS-18 & GCIS-23



Nominal	Size	Diameter of Deck (mm.)	Outside Diameter (mm.)	Height (mm.)	Wall thickness (mm.)	Width (mm.)
1/2"	12mm	12±1.0	20±1.4	10±1.0	2.0±0.45	10±2.0
3/4"	19mm	19±1.5	28±2.0	14±1.0	2.5±0.5	14±2.0
1"	25mm	25±1.5	38±2.0	19±1.0	3.0±0.5	20±2.0
1.5"	38mm	38±2.0	60±3.0	30±1.5	4.0±1.0	30±2.5
2"	50mm	50±2.5	80±4.0	40±2.0	5.0±1.0	40±3.0
3"	76mm	76±4.0	114±4.0	57±3.0	9.0±1.0	57±4.0

Table 3. Measurement Tolerance for GCIS-18 & GCIS-23

1.2 Ceramic Supper Saddle (GCSS)

1.2.1 Sample Picture



Fig 3. Ceramic Supper Saddle -18

1.2.2 Technical Parameter

TYPICAL CHEMICAL ANALYSIS (wt. %)	GCSS-18
Alumina, Al ₂ O ₃	17 – 20
Al ₂ O ₃ + SiO ₂	>90
Calcium, CaO	< 1
Titania, TiO ₂	< 2
Alkalies, K ₂ O + Na ₂ O	1 – 4
Magnesia, MgO	< 1
Leachable Iron	< 0.1
Leachable Sulphur	None Detected
Leachable Chlorides	None Detected

Table 4. Typical chemical analysis of GCSS-18

Nominal Size	Approx. Weight		Surface Area		Void Fraction (%)	Dry Packing factor (m ⁻¹)
	lb/ft ³	Kg/m ³	ft ² /ft ³	m ² /m ³		
1''	40	645	79.5	260	77	570
1.5''	37.5	600	64	210	78	430
2''	35.6	570	42.8	140	79	277
3''	36	580	32	105	77	206

Table 5. Geometric Properties for GCSS-18

1.3 Ceramic Raschig Ring (GCRR)

1.3.1 Sample Picture



Fig 4. Ceramic Raschig Ring -18

1.3.2 Technical Parameter

TYPICAL CHEMICAL ANALYSIS (wt. %)	GCRR-18
Alumina, Al_2O_3	17– 20
$Al_2O_3 + SiO_2$	>90
Calcium, CaO	< 1
Titania, TiO_2	< 2
Alkalies, $K_2O + Na_2O$	1 – 4
Magnesia, MgO	< 1
Leachable Iron	< 0.1
Leachable Sulphur	None Detected
Leachable Chlorides	None Detected

Table 6. Typical chemical analysis of GCRR-18

Size (mm.)	Weight (Kg/m ³)	Number (pc. / m ³)	Surface (m ² / m ³)	Free Vol. (%)
6	800	4.800.000	940	58
10	900	672.000	440	65
12	820	400.000	360	67
15	700	200.000	310	70
25	600	87.700	195	73
35	570	16.400	140	76
50	555	6.300	100	77
80	535	1.470	60	77
100	500	750	44	77

Table 7. Geometric Properties for GCRR-18

1.4 Ceramic Berl Saddle (GCBS)

1.4.1 Sample Picture



Fig 5. Ceramic Berl Saddle

1.4.2 Technical Parameter

Size (inches)	Weight (lb/ft ³)	Contact Surface (ft ² /ft ³)	Free Space (%)
1/2"	50	143	66
3/4"	47	87	70
1"	45	76	72
1.5"	41	46	73
2"	39	30	75

Table 8. Typical Physical Analysis

TYPICAL CHEMICAL ANALYSIS (wt. %)	GCBS
Alumina, Al ₂ O ₃	17– 20
Al ₂ O ₃ +SiO ₂	>90
Calcium, CaO	< 1
Titania, TiO ₂	< 2
Alkalies, K ₂ O	1 – 4
Magnesia, MgO	< 1
Leachable Iron	< 0.1
Leachable Sulphur	None Detected
Leachable Chlorides	None Detected

Table 9. Typical Chemical Analysis

1.5 Ceramic Pall Ring (GCPR)

1.5.1 Sample Picture



Fig 6. Ceramic Pall Ring -18

1.5.2 Technical Parameter

TYPICAL CHEMICAL ANALYSIS (wt. %)	GCPR-18
Alumina, Al_2O_3	17– 20
$Al_2O_3 + SiO_2$	>90
Calcium, CaO	< 1
Titania, TiO_2	< 2
Alkalies, $K_2O + Na_2O$	1 – 4
Magnesia, MgO	< 1
Leachable Iron	< 0.1
Leachable Sulphur	None Detected
Leachable Chlorides	None Detected

Table 10. Typical chemical analysis of GCPR-18

Size (mm.)	Weight (Kg/m ³)	Number (pc. / m ³)	Surface (m ² / m ³)	Free Vol. (%)
25	620	39.900	220	75
35	540	16.300	165	78
50	555	5.700	120	78
80	520	1.470	80	79
100	500	750	55	81

Table 11. Geometric Properties for GCPR-18

1.6 Ceramic Cross Partition Ring (GCCPR)

1.6.1 Sample Picture



Fig 7. Ceramic Cross Partition Ring -18

1.6.2 Technical Parameter

TYPICAL CHEMICAL ANALYSIS (wt. %)	GCCPR-18
Alumina, Al ₂ O ₃	17– 20
Al ₂ O ₃ + SiO ₂	>90
Calcium, CaO	< 1
Titania, TiO ₂	< 2
Alkalies, K ₂ O + Na ₂ O	1 – 4
Magnesia, MgO	< 1
Leachable Iron	< 0.1
Leachable Sulphur	None Detected
Leachable Chlorides	None Detected

Table 12. Typical chemical analyse of GCCPR-18

Size (mm.)	OD*ID*H*T (mm.)	Weight (Kg/m ³)	Number (pc. / m ³)	Surface (m ² / m ³)	Dry packing factorm (m ⁻¹)
50	50*40*50*5	600	6400	145	565
80	80*64*80*8	820	1950	120	356
100	100*80*100*10	850	1000	110	252
120	120*96*120*12	860	370	75	146
150	150*120*150*15	980	295	60	101

Table 13. Geometric Properties for GCCPR-18

1.7 Ceramic Cascade Mini Ring (GCCMR)

1.7.1 Sample Picture



Fig 8. Ceramic Cascade Mini Ring -18

1.7.2 Technical Parameter

TYPICAL CHEMICAL ANALYSIS (wt. %)	GCCMR-18
Alumina, Al ₂ O ₃	17– 20
Al ₂ O ₃ +SiO ₂	>90
Calcium, CaO	< 1
Titania, TiO ₂	< 2
Alkalies, K ₂ O + Na ₂ O	1 – 4
Magnesia, MgO	< 1
Leachable Iron	< 0.1
Leachable Sulphur	None Detected
Leachable Chlorides	None Detected

Table 14. Typical chemical analysis of GCCMR-18

Size (mm.)	OD*ID*H*T (mm.)	Weight (Kg/m ³)	Number (pc. / m ³)	Surface (m ² / m ³)	Void Volume (m ³ /m ³)
25	25*20*3	624	74000	270	0.74
50	50*30*5	516	9091	109	0.787
76	76*45*7	426	2517	63	0.795

Table 15. Geometric Properties for GCCMR-18



2. Metal Random Packing

Our five types of metal random packing:

- Metal Pall Ring : **GMPR**
- Metal Intalox Saddles : **GMIS**
- Metal Rachig Ring : **GMRR**
- Metal Cascade Mini Ring : **GMCMR**
- Metal Nutter Ring : **GMNR**

2.1 General Introduction

High Efficiency Metal Random Packing takes the performance advantages of saddle design and ring styles, the combination structure thus gave birth to one of the most successful high efficiency packing. Its unique shape ensures low liquid holdup and low pressure drop. The external geometry prevents the packing from interlocking or entangling, ensuring the randomness and optimum surface area within the packed bed, while the internal fingers, arches and vanes promote optimum interfacial gas/liquid contact with minimal drag or hold-up. Energy consumption is reduced, due to lower reflux ratios.

Metal random packings are available in various materials of construction such as:

- Carbon Steel
- Stainless Steel
- Titanium and Zirconium
- Copper
- Aluminum

The general applications:

- Various separation, absorption and desorption equipment
- Normal atmospheric pressure reduced and vacuum distillation plant
- Decarburating and desulfuration systems
- Ethyl benzene separation
- Iso-octane/toluene systems

2.2 Metal Pall Ring (GMPR)

2.2.1 Brief introduction

GMPR is one of the most common and well known packing, our Metal Pall Ring is an industry standard design media developed from the Raschig Ring and is used widely in all variety of applications. By minimizing the number of contours and crevices that can cause liquid hold-up and potential entrainment, the Metal pall ring geometry enables high gas and liquid transfer rates. The opened cylinder walls and inward bent protrusions of the Metal pall Ring allow greater capacity and lower pressure drop than standard cylindrical rings. This open ring design also maintains an even distribution and resists wall-channeling tendencies. The interior and exterior contacting surfaces of the Metal pall ring provide for an effective distribution of liquids and gasses and resist plugging, fouling and nesting. Pall rings are available in a wide range of materials.



Fig 9. Metal Pall Ring

2.2.2 Advantage

- Lower pressure drop
- Good liquid / gas distribution and higher mass transfer efficiency
- Versatility, Easily wettable, High resistance to fouling, High Temperature
- High Mechanical Strength, suitable for deeper beds
- High temperature resistance

2.2.3 Technical Parameter

Item	Specific Surface area (m ² /m ³)	Voidage (%)	Number ₃ (pc./m ³)	Bulk density ₃ (Kg/m ³)	Dry Packing Factor (m ⁻¹)
16*16* 0.3	339	92.8	235 000	450	299
25*25*0.5	233	93.4	51 000	397	269
38*38*0.6	176	94.5	14 500	313	153
50*50*0.8	134	94.9	6 300	314	131

Table 16. Specification for GMPR

2.3 Metal Intalox Saddle (GMIS)

2.3.1 Brief introduction

Our Metal Intalox Saddle is high performance random packing, successfully used in mass transfer towers both small and large diameter. It is frequently used in deep vacuum towers where low pressure drop is crucial and also high pressure towers where capacity significantly exceeds conventional trays, offer a 30% lower pressure drop than Pall Rings but with a lower liquid hold-up. Our Metal Intalox Saddles' physical shape permits maximum randomness and minimum alignment, Advanced design gives it (GMIS) a high rate of liquid film surface renewal producing a high mass transfer rate, leading to a greater capacity and efficiency compared to other random packings, Large number of contact points for homogenous distribution of liquid and gas, Facilitates shorter packed bed heights.



Fig 10. Metal Intalox Saddle

2.3.2 Application

Our Metal Intalox Saddle (GMIS) is high performance random packing, successfully used in :

- Transfer towers both small and large diameter
- Deep vacuum towers where low pressure drop is crucial and also high pressure towers where capacity significantly exceeds conventional trays
- Distillation, absorption etc
- High pressure towers

2.3.3 Technical Parameter

Item	Specific Surface area (m ² /m ³)	Voidage(%)	Number ₃ (pc./m ³)	Bulk density ₃ (Kg/m ³)	Dry Packing Factor (m ⁻¹)
25	224	96.6	168 000	428	441
40	153	97.7	50 000	520	258
50	165	98	15 000	395	194
70	141	98.5	4 625	391	129

Table 17. Specification for GMIS

2.4 Metal Raschig Ring (GMRR)

2.4.1 Brief introduction

Our Metal Raschig Ring is proven in a wide range of mass transfer applications. A full range of GMRR sizes and materials are available to tackle a wide range of separation applications. GMRR have a long history of improving separation efficiency. The simple big opening structure provides one of the largest surface areas among tower packing options. The advantages of metal raschig ring packing are high capacity, low pressure drop, high separation, cold and heat resistant, long life.



Fig 11. Metal Raschig Ring

2.4.2 Application

Our Metal Intalox Saddle (GMRR) is used in

- Petrochemical distillation and extraction applications
- Absorption in gas processing and combustion plants
- Desorption in water treatment

2.4.3 Technical Parameter

Item	Specific Surface area (m ² /m ³)	Voidage (%)	Number (pc./m ³)	Bulk density (Kg/m ³)	Dry Packing Factor (m ⁻¹)
15*15*0.3	350	95	230 000	379	460
25*25*0.5	220	95	50 000	400	290
25*25*0.8	220	92	50 000	598	290
35*35*0.8	150	93	19 000	430	190
50*50*0.8	110	95	6 500	321	130
80*80*1.2	65	96	1 600	300	80

Table 18. Specification for GMRR

2.5 Metal Cascade Mini Ring (GMCMR)

2.5.1 Brief introduction

Our Metal Cascade Mini Ring, GM-CMR for short, a lower aspect ratio increases capacity and reduces pressure drop and the highly exposed internal and external surfaces give a high efficiency vehicle for liquid – gas contact with good mechanical strength. Lower aspect ratio (H/D 1/2 to 1/3) increase capacity and reduces pressure drop: GM-CMR's preferential orientation in a packed bed with the cylindrical axis in the vertical plane, allows a free passage for gas to flow through it. Smaller column size without sacrificing the efficiency: The lower pressure drop and higher throughput of GM-CMR enables a smaller column diameter and fan size to be specified in new installations, the highly exposed internal and external surfaces provide an efficient vehicle for liquid–gas contact, by multiple drip-points. More resistant to fouling: Because a combination of Metal Cascade Mini Rings' vertical alignment and open sides, allow any solids present to be flushed downwards through the packed bed. Good Mechanical Strength, which allows our Metal Cascade Mini Rings' use in deep packed beds that have a higher hydraulic capacity.



Fig 12. Metal Cascade Mini Ring

2.5.2 Applications

Our Metal Cascade Mini Rings (GMCMR) are widely used in :

- Desulphurization and decarburization system in compound ammonia plant
- Decompressed plant in crude oil separated plant
- All kind of separation process such as separation of methanol
- Separation of organic acid
- Absorb or disabsorb tower

2.5.3 Technical Parameter

Item	Specific Surface area (m ² /m ³)	Voidage (%)	Number ₃ (pc./m)	Bulk density ₃ (Kg/m)	Dry Packing Factor (m ⁻¹)
25*12.5*0.6	220	93	97 160	446	273.5
38*19*0.8	154.3	94	31 890	459	185.8
50*28*0.8	109.2	95	11 600	296	127.4

Table 19. Specification for GMCMR

2.6 Metal Nutter Ring (GMNR)

2.6.1 Brief introduction

Our Metal Nutter Ring is equivalent to metal nutter ring, which have the following benefits as it's known to all engineers worldwide:

- Excellent mechanical strength
- Improved efficiency due to lateral liquid diffusion and surface film renewal
- Outstanding surface utilization in mass and heat transfer applications
- Shorter packed bed heights
- Maximum piece-to-piece contact with minimal nesting
- High strength to weight ratio allows up to a 15 meters bed height
- Consistent performance due to uniform randomness



Fig 13. Metal Nutter Ring

2.6.2 Technical Parameter

Item Spec (mm)	Number (pc./m ³)	Weight (Kg/m ³)	Surface area (m ² /m ³)	Free volume (%)
No.0.7	167 400	177	226	97.7
No.1.0	67 100	179	168	97.7
No.1.5	26 800	181	124	97.6
No.1.75	20 200	155	106	98
No.2.0	13 600	144	96	98.2
No.2.5	8 800	121	83	98.4
No.3.0	4 200	133	66	98.2

Table 20. Specification for GMNR

3. Plastic Random Packing

We had developed a full range of plastic random column packing:

- Plastic Pall Ring : GPPR
- Plastic Rosette Ring : GPRR
- Plastic Cascade Mini Ring : GPCMR
- Plastic Saddle Ring : GPSR
- Plastic Heilex Ring : GPHR

3.1 General Introduction

Our Plastic random packing (or plastic random column packing) has been used successfully as an inexpensive and efficient means to increase tower capacity and efficiency. There are numerous process advantages that can be realized by using plastic random column packing in many applications. The predominant reasons for using column packing is to reduce pressure drop through out the column, to increase capacity compared to trays at the same efficiency, and to reduce the liquid holdup in the column. Plastic random column packing are not as bulky as ceramic equivalents and therefore offer higher capacity and lower pressure drop.

Materials we can offer:

- PE
- PP
- PVC
- UPVC
- CPVC
- PVDF

Typical Application:

- Absorption, scrubbing, and stripping services.

3.2 Plastic Pall Ring (GPPR)

3.2.1 Sample Picture

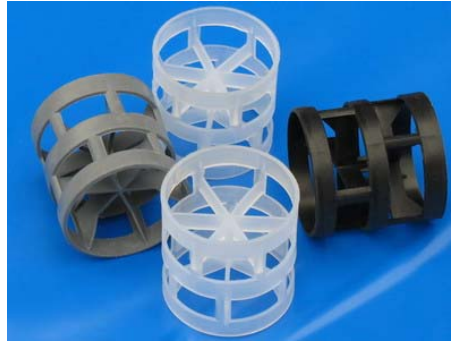


Fig 14. Plastic Pall Ring

3.2.2 Benefits

GPPR packing is an economical and versatile. A industry standard with well-known performance characteristics:

- Good Capacity and Low Pressure Drop: Higher capacity and lower pressure drop than ceramic packing. Multiple sizes provide ability to optimize capacity and efficiency based on application requirements.
- Higher Liquid Hold-up and Residence Time: Relatively high liquid hold-up allows good absorption efficiency with slow chemical reaction.
- Versatile Standard Packing: Lower sensitivity to liquid and vapor distribution quality allows use with conventional liquid distributors.
- High Mechanical Strength: Ring and spoke construction provides high mechanical strength, which allows use in deep beds.

3.2.3 Application

- Absorption, scrubbing, and stripping services
- Versatile alternative to metal Pall rings

3.2.4 Technical Parameter

Type	Sizes (mm.)	Surface ² (m ² /m ³)	Free Vol. (%)	Number (pc./m ³)	Weight (Kg/ m ³)
Dia16	16*16*1	260	91	235000	141
Dia25	25*25*1.2	210	90	54600	82
Dia38	38*38*1.4	140	89	13500	54
Dia50	50*50*1.5	100	90	6300	51
Dia76	76*76*2.6	73	92	1930	58

Table 21. Technical Parameter of GPPR

3.3 Plastic Rosette Ring (GPRR)

3.3.1 Sample Picture



Fig 15. Plastic Rosette Ring

3.3.2 Benefits

GPRR packing is an economical and versatile industry standard with well-known performance characteristics.

3.3.3 Application

- Absorption, scrubbing, and stripping services.

3.3.4 Technical Parameter

Type	Sizes (mm.)	Surface (m ² /m ³)	Free Vol. (%)	Number (pc./m ³)	Weight (Kg/m ³)
Dia25	25*9*(1.5*2) (5 ring)	195	82	170000	90
Dia47	47*19*(3*3) (9 ring)	185	88	32500	111
Dia51	51*19*(3*3) (9 ring)	180	98	23500	103
Dia59	59*19*(3*3) (12 ring)	150	92	17500	72
Dia73	73*27.5*(3*4) (12 ring)	127	89	8000	80
Dia95	95*37*(3*6) (18 ring)	94	90	3900	78
Dia145	145*37*(3*6) (20 ring)	118	95	1100	48

Table 22. Technical Parameter of GPRR

3.4 Plastic Cascade Mini Ring (GPCMR)

3.4.1 Sample Picture



Fig 16. Plastic Cascade Mini Ring

3.4.2 Benefits

GPCMR achieves:

- High Capacity and Low Pressure Drop: Low aspect ratio increases capacity and reduces pressure drop. The preferred vertical orientation of the packing axes allows free gas flow through the packed bed; Low pressure drop and high capacity allows smaller column diameter and blower sizes in new installations; Multiple sizes provide ability to optimize capacity and efficiency based on application requirements.
- Fouling Resistant: Open structure and preferred vertical axis orientation inhibits fouling by allowing solids to be more easily flushed through the bed by the liquid.
- High Mechanical Strength: Ring and spoke construction and preferred vertical orientation provide high mechanical strength, which allows use in deep beds.

3.4.3 Application

- Absorption and stripping services, many environmental applications.

3.4.4 Technical Parameter

Type	Sizes (mm.)	Number (pc./m ³)	Bulk density (Kg/m ³)	Specific surface area (m ² /m ³)	Free Vol. (%)	Dry packing Factor (m ⁻¹)
Dia16	16*8.9*1.1	299136	135.6	370	85	602.6
Dia25	25*12.5*1.4	81500	97.8	228	90	312.8
Dia38	38*19*1	27200	57.5	132.5	91	175.8
Dia50	50*25*1.5	10740	54.8	114.2	92.7	143.1
Dia76	76*37*3	3420	68.4	90	92.9	112.3

Table 23. Technical Parameter of GPCMR

3.5 Plastic Saddle Ring (GPSR)

3.5.1 Sample Picture



Fig 17. Plastic Saddle Ring

3.5.2 Benefits

GPSR saddles are a versatile and economical industry standard with well-known performance characteristics:

- Good Capacity and Low Pressure Drop: Higher capacity and lower pressure drop than ceramic saddles; multiple sizes provide ability to optimize capacity and efficiency based on application requirements.
- Higher Liquid Hold-up and Residence Time: Relatively high liquid hold-up allows good absorption efficiency with slow chemical reaction..
- Versatile Standard Packing: Lower sensitivity to liquid and vapor distribution quality allows use with conventional liquid distributors.

3.5.3 Application

- Absorption, scrubbing, stripping services.
- Pulp and paper service, such as bleach plant absorbers.
- Versatile alternative to ceramic saddles.

3.5.4 Technical Parameter

Type	Sizes (mm.)	Specific surface area (m ² /m ³)	Free Vol. (%)	Number (pc./m ³)	Bulk density (Kg/m ³)	F factor (m ⁻¹)
Dia25	25×12.5×1.2	288	84.7	97680	102	473
Dia38	38×19×1.2	265	95	25200	63	405
Dia50	50×25×1.5	250	96	9400	75.2	332
Dia76	76×38×2.6	200	97	3700	59.2	289

Table 24. Technical Parameter of GPCMR

3.6 Plastic Heilex Ring (GPHR)

3.6.1 Sample Picture



Fig 18. Plastic Heilex Ring

3.6.2 Benefits

- High performance random packing provides lower possible pressure drop and high efficiency.

3.6.3 Application

- Absorption and stripping services.

3.6.4 Technical Parameter

Type	Sizes (mm.)	Surface (m^2/m^3)	Free Vol. (%)	Number ($pc./m^3$)	Weight (Kg/m^3)
Dia50	50*56	110	94	8000	64
Dia76	76*76	92	96	3420	56
Dia100	100*100	76	95	1850	51

Table 25. Technical Parameter of GPHR

4. Benefits

4.1 Outstanding Performance

Our Random Packings are an inexpensive packing alternative to increase a tower's capacity and efficiency. With our designed random packings, capacity increases can be achieved without sacrificing efficiency. Our random packing is manufactured from high quality natural China-clay materials, which enables the products:

- Excellent Stability
- High Mechanical Strength
- Excellent Resistance to Thermal Shock
- Consistent Packing Factors
- Acid Resistance up to 99.8%(except for Hydrofluoric acid)

4.2 Prompt Delivery

We have maintained in stock of standard sizes for immediate shipment at competitive prices. Moreover, we are proud of having a round-clock order management system and a team of professional shipping clerk, which will ensure you prompt and guaranteed delivery.

4.3 Economical packaging

In order to provide you the most convenient and economical packaging in terms of manual handling charge on site, we will propose you the advice on the best way of packaging.

We now offer:

- One cubic foot bags, 40~50bags per pallet.
- One cubic foot paper boxes.
- One cubic meter supersack.
- 55 Gallon steel drums, four drums per pallet.
- Other packagings are available upon your request.

4.4 Quick Shipment on Short Notice

We preserve high stock levels on standard items, your request will be immediately handled by our IT department, and the order system will automatically transfer the order to our relative staff by email and SMS. You will receive our confirmation within 24 hours. Our system will work literally 24 hours a day, seven days a week. We also have a team of sophisticated shipping staff who used to work in the forwarding company and will guarantee you professional delivery schedule.

4.5 Technical Support

We had been in this industry for more than 25 years. We have maintained a group of competent ceramic material experts. If our standard products don't meet your needs, our technical support will work with your company to develop the products which meet your specific application requirements.