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## Plastic Random Packing

Plastic Random Packing is also named Plastic Tower Packing which are made from polyethylene(PE),polypropylene(PP),reinforced polypropylene(RPP),polyvinyl chloride(PVC),chlorinated polyvinyl chloride(CPVC)and polyvinylidene fluoride(PVDF),They have a strong resistance to chemical corrosion, large void space and fluid capacity, low pressure drop, energy saving, low operation cost, light in weight and easy to be load and unload, and reusable, They are available for stripping, absorbing and washing in low temperature of 60-150°C in the tower in chemical, petrochemical, alkali chloride, coal gas and environmental protection industries.

### Main items/types:

- a. Plastic Pall Ring (KPK-PPR)
- b. Plastic Saddle Ring (KPK-PSR)
- c. Plastic Rosette Ring (KPK-PRR)
- d. Plastic Cascade Mini Ring (KPK-PCMR)
- e. Plastic Conjugate Ring (KPK-PCR)
- f. Plastic Heilex Ring (KPK-PHR)
- g. Polyhedral Hollow Ball (KPK-PHB)

### Advantages:

- a) Big free volume
- b) Low pressure drop
- c) Short height of mass transfer unit (HTU)
- d) High flooding velocity
- e) Fully touching liquid and gas
- f) Small density
- g) High mass transfer efficiency

Working temperature range in mediums: 60 - 150°C

### Application:

A variety of different sizes of products provide the ability to optimize capacity and efficiency based on different application requirements which were widely used in the packing towers in petrochemical, chemical, chloro-alkali, gas and environmental protection industry

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**Physical & Chemical Properties of Plastic Packing:**

Item/Material	PE	PP	RPP	PVC	CPVC	PVDF
Density,g/cm <sup>3</sup>	0.94- 0.96	0.89- 0.91	0.92- 0.94	1.32- 1.44	1.50- 1.54	1.75-1.78
Working temperature, °C	≤90	≤100	≤120	≤60	≤90	≤150
Chemical resistance	Good Corrosion resistant					
Compressive strength, N/mm	≥6.0	≥6.5	≥7.0	≥6.0	≥8.0	≥10.0

**Product design:**

If our product standard didn't meet your needs, CHEMPACK is glad to work with your company and design it for your specific application.

## Plastic Pall Ring

**Product No.:** KPK-PPR



*Illustration 1: Plastic Pall Ring(KPK-PPR)*

Plastic Pall Ring is versatile. This product was advanced on the basis of Plastic Raschig Ring, and compared with it, both of them have similar cylindrical dimensions but the Plastic Pall Ring has two rows of punched out holes, with fingers or webs turned into the centre of the cylinder, which significantly increases the performance of the packing, in terms of throughput, efficiency and pressure drop.

### **Advantages:**

It has features such as high free volume, low pressure drop, low mass-transfer unit height, high flooding point, uniform gas-liquid contact, small specific gravity, high mass transfer efficiency and so on.

### **Application:**

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

A variety of different sizes of products provide the ability to optimize capacity and efficiency based on different application requirements, and the application temperature in media ranges from 60°C to 150°C.

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**Physical & chemical properties of plastic random packing:**

Performance/Material	PE	PP	RPP	PVC	CPVC	PVDF
Density (g/cm <sup>3</sup> )	0.94-0.96	0.89-0.91	0.93-0.94	1.32-1.44	1.50-1.54	1.75-1.78
Operation Temp.(°C)	90	>100	>120	>60	>90	>150
Chemical corrosion resistance	Good	Good	Good	Good	Good	Good
Compression Strength(Mpa)	>6.0	>6.5	>7.0	>6.0	>8.0	>10.0

**Size & Specification:**

Product Name	Size mm	Diameter* Height* Thickness mm	Surface Area m <sup>2</sup> /m <sup>3</sup>	Void Space %	Bulk Density kg/m <sup>3</sup>	Number/ m <sup>3</sup>	Packing factor m <sup>-1</sup>
Plastic Pall ring	Φ25	25×25×1.2	213	91	85	48300	285
	Φ38	38×38×1.4	151	91	82	15800	200
	Φ50	50×50×1.5	100	92	60	6300	130
	Φ76	76×76×2.6	72	92	62	1930	92

Note: The bulk density given here is based on PP material.

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## Plastic Saddle Ring

Product No.: KPK-PSR



*Illustration 2: Plastic Saddle Ring(KPK-PSR)*

Plastic Intalox Saddle Ring is a kind of advanced packings which is made of heat resistant and chemical corrosion resistant plastics, such as PE, PP, RPP, PVC, CPVC and PVDF. So it is economical and has versatile industry standard with well-known performance characteristics.

### Advantage:

Low pressure drop, high flux , high efficiency , easy to handle.

### Application:

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

### Size & Specification:

Product Name	Size mm	Diameter* Height* Thickness mm	Surface Area m <sup>2</sup> / m <sup>3</sup>	Void Space %	Bulk Density kg/m <sup>3</sup>	Number/ m <sup>3</sup>	Packing factor m <sup>-1</sup>
Plastic Intalox Saddle Ring	Φ25	25×13×1.2	288	85	102	97680	467
	Φ38	38×19×1.2	265	95	91	25200	309
	Φ50	50×25×1.5	250	96	75	9400	282
	Φ76	76×38×3.0	200	97	59	3700	220

Note: The bulk density given here is based on PP material.

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## Plastic Rosette Ring

**Product No.:** KPK-PRR



*Illustration 3: Plastic Rosette Ring(KPK-PRR)*

Plastic Rosette Ring is also named Teller Ring which is made up of twelve radial arranged small rings. It is also an economical and versatile industry standard with well known performance characteristics.

**Advantages:** Lower pressure, energy, mass transfer efficiency

Customers can choose products of different materials such as polyethylene(PE), polypropylene(PP), reinforced polypropylene(RPP), polyvinyl chloride(PVC), chlorinated polyvinyl chloride(CPVC) and polyvinylidene fluoride(PVDF) based on different application requirements.

**Application:** Absorption, scrubbing, and stripping services etc.



**Size & Specification:**

Product Name	Size mm	Diameter* Height* Thickness mm	Surface m <sup>2</sup> /m <sup>3</sup>	Void Space %	Bulk Density kg/m <sup>3</sup>	Number/ m <sup>3</sup>	Packing factor m <sup>-1</sup>
Teller Rosette Ring	Φ25	25×9×1.5×2	269	82	128	175000	488
	Φ47	47×19×3×3	185	88	111	32500	271
	Φ51	51×19×3×3	180	89	103	25000	255
	Φ59	59×19×3×3	150	92	102	17500	213
	Φ73	73×28×3×4	127	89	102	8000	180
	Φ95	95×37×3×6	94	90	88	3600	129
	Φ145	145×48×3×6	65	95	47	1100	76

Note: The bulk density given here is based on PP material.

**Other pictures:**

*Illustration 4: Plastic Rosette Ring(KPK-PRR)*



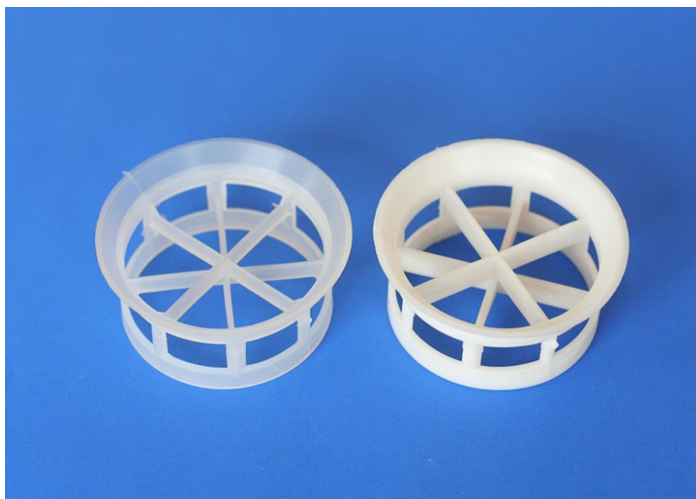
*Illustration 5: Plastic Rosette Ring(KPK-PRR)*

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## Plastic Cascade Mini Ring

Product No.: KPK-PCMR



*Illustration 6: Plastic Cascade Mini Ring(KPK-PCMR)*

Plastic Cascade Mini Ring is a kind of advanced packings which is made of heat resistant and chemical corrosion resistant plastics, such as PE, PP, RPP, PVC, CPVC and PVDF. So it is economical and has versatile industry standard with well-known performance characteristics.

### **Advantage:**

- 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.
- Open structure and preferred vertical axis orientation inhibits fouling by allowing solids to be more easily flushed through the bed by the liquid.
- Ring and spoke construction and preferred vertical orientation provide high mechanical strength, which allows use in deep beds.

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**Application:**

Absorption and stripping services, many environmental applications.

A variety of different sizes of products provide the ability to optimize capacity and efficiency based on different application requirements.

**Size & Specification:**

Product Name	Size mm	Diameter* Height* Thickness mm	Surface Area m <sup>2</sup> /m <sup>3</sup>	Void Space %	Bulk Density kg/m <sup>3</sup>	Number/ m <sup>3</sup>	Packing factor m <sup>-1</sup>
Cascade Mini Ring	Φ25	25×13×1.2	228	90	98	81500	313
	Φ38	38×19×1.4	133	93	58	27200	176
	Φ50	50×25×1.5	114	94	55	10740	143
	Φ76	76×37×3.0	90	93	698	3420	112

Note: The bulk density given here is based on PP material.

## Plastic Conjugate Ring

Product No.: KPK-PCR

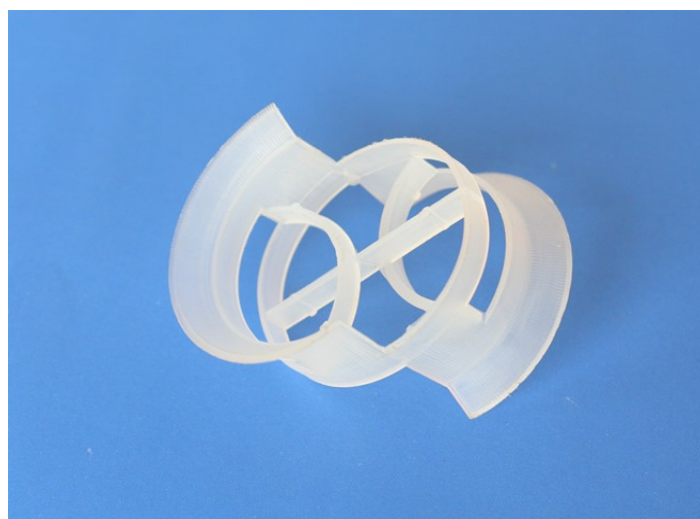


Illustration 7: Plastic Conjugate Ring(KPK-PCR)

Plastic Conjugate Ring is a kind of advanced packing which is made of heat resistant and chemical corrosion resistant plastics, such as PE, PP, RPP, PVC, CPVC and PVDF. So it is economical and has versatile industry standard with well-known performance characteristics.

**Advantages:** Better in hydrodynamics and mass transfer properties.

### Size & Specification:

Product Name	Size mm	Diameter* Height* Thickness mm	Surface Area m <sup>2</sup> /m <sup>3</sup>	Void Space %	Bulk Density kg/m <sup>3</sup>	Number/ m <sup>3</sup>	Packing factor m <sup>-1</sup>
Plastic Conjugate Ring	Φ25- I	25×25×1.0	185	95	96	74000	216
	Φ38- I	40×34×1.5	130	93	61	18650	162
	Φ38- II	37×37×1.5	142	91	80	16320	188
	Φ50- II	50×40×1.5	104	80	66	9500	164
	Φ76	76×76×2.5	81	95	81	3980	94

Note: The bulk density given here is based on PP material.

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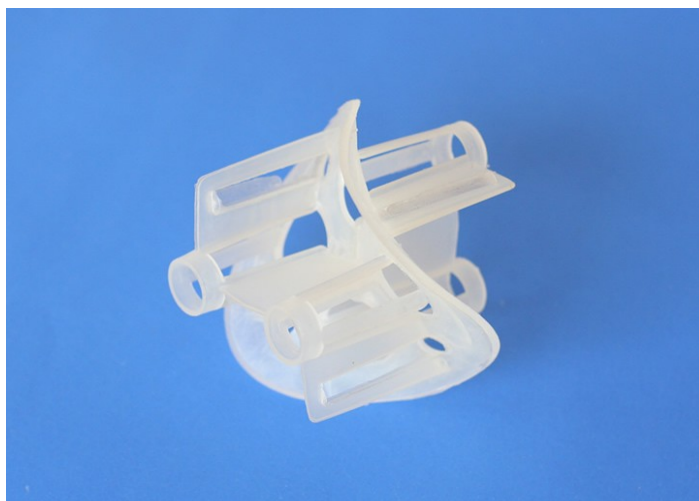
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## Plastic Heilex Ring

Product No.: KPK-PHR



*Illustration 8: Plastic Heilex Ring(KPK-PHR)*

Compared with other products, Plastic Heilex Ring enlarges its surface area and void space which contribute a lot to enhance the Product Performance.

**Application:** Absorption, stripping services and Fertilizer production.

### Size & Specification:

Product Name	Size mm	Diameter* Height* Thickness mm	Surface Area m <sup>2</sup> /m <sup>3</sup>	Void Space %	Bulk Density kg/m <sup>3</sup>	Number/ m <sup>3</sup>	Packing factor m <sup>-1</sup>
Plastic Heilex Ring	Φ50	50×50×1.5	107	94	61	8200	128
	Φ76	76×76×1.8	75	95	56	3180	87
	Φ100	100×100×2.0	55	96	48	1850	62

Note: The bulk density given here is based on PP material.

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## Polyhedral Hollow Ball

Product No.: KPK-PHB

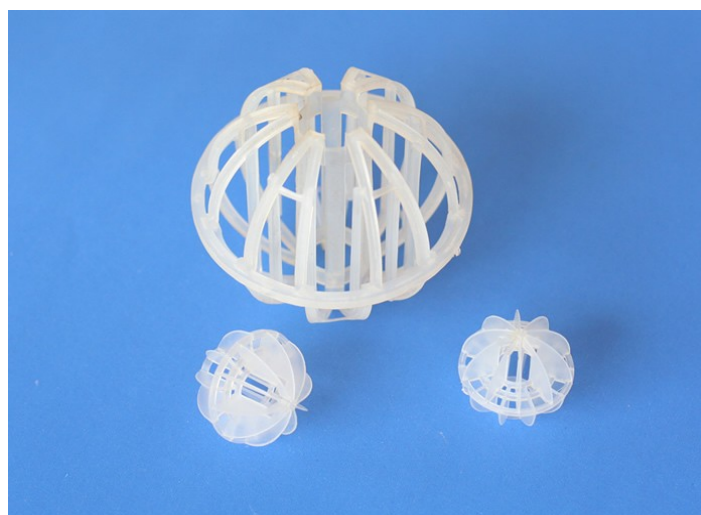


Illustration 9: Polyhedral Hollow Ball(KPK-PHB)

Hollow ball has good absorption effect and high purifying efficiency. It is widely used in chemical industry.

### Size & Specification:

Product Name	Size mm	Diameter* Height* Thickness mm	Surface Area m <sup>2</sup> /m <sup>3</sup>	Void Space %	Bulk Density kg/m <sup>3</sup>	Number/ m <sup>3</sup>	Packing factor m <sup>-1</sup>
Polyhedral Ball	Φ25	25×1.0	460	90	96	65100	631
	Φ38	38×1.2	325	91	83	28500	355
	Φ50	50×1.5	236	91	76	11500	313

Note: The bulk density given here is based on PP material.

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## Hollow Floatation Ball Packing

Product No.: KPK-HFBP



*Illustration 10: Hollow Floatation Ball Packing(KPK-HFBP)*

### Size & Specification:

Specification(mm)	Surface	Free volume	Bulk density (kg/m <sup>3</sup> )	Number/m <sup>3</sup>
	Area(m <sup>2</sup> /m <sup>3</sup> )	(%)		
ø 25*1.0	200	40	125	41500
ø 38*1.2	150	40	121	22000
ø 50*1.5	120	40	73	10480

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