

PLASTIC MASS TRANSFER PRODUCT RANGE



SPECIALISING IN THE SUPPLY OF TOWER PACKING IN MASS TRANSFER EQUIPMENT

Pallchem specialises in the manufacture and supply of plastic, ceramic and metal mass transfer media for absorption, stripping, scrubbing and distillation processes used by mechanical, biological and chemical plants. We are a privately owned South African company managed by Stanton Global and associated with PIMMS Group, a leading plastics manufacturer. Pallchem manufactures plastic random packings locally in South Africa, ensuring fast delivery & reliable support for a wide range of mass transfer needs.

TALK TO US ABOUT YOUR PACKING NEEDS

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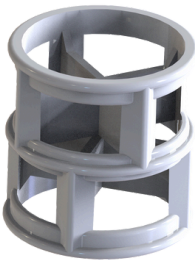
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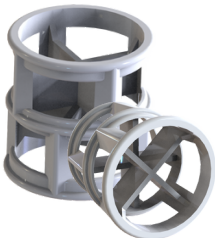
PLASTIC PALL RINGS

BUILT ON PROVEN PRINCIPLES. REFINED FOR PERFORMANCE.

Plastic Pall Rings are high-efficiency random packing elements used in gas and liquid contact processes. Made from durable thermoplastics like PP and PVDF, they feature an open cylinder design for better fluid distribution and lower pressure drop. Due to their lightweight, chemical resistance, and high void space make them ideal for aggressive environments, high-capacity systems, and cost-effective, long-term applications.



PHYSICAL AND CHEMICAL PROPERTIES	
PROPERTY	VALUE / DESCRIPTION
Material Options	PP, GFPP, HDPE, PVDF
Maximum Operating Temperature	Up to 143°C / 290°F depending on material
Chemical Resistance	Outstanding resistance to acids, alkalis, and solvents
Thermal Stability	High; suitable for both ambient and elevated process temperatures
Mechanical Strength	Rigid and durable under high-flow operation and thermal cycling
Design Profile	Cylindrical with multiple vertical slits and internal web structure
Weight	Lightweight; suitable for packed towers with minimal load tolerance
Toxicity	Non-toxic and inert; safe for sensitive applications



PRODUCT FEATURES & PERFORMANCE BENEFITS

- **High Free Volume:** Reduces pressure drop and increases vapor-liquid contact.
- **Internal Cross-Structure:** Enhances surface wetting and gas flow uniformity.
- **Excellent Chemical Compatibility:** Handles a wide range of corrosive substances.
- **Superior Thermal Tolerance:** Operates in high-temperature process environments.
- **Lightweight and Easy to Install:** Reduces handling time and infrastructure load.
- **Versatile Across Applications:** Effective in both gas absorption and stripping processes.

APPLICATIONS

PLASTIC PALL RINGS ARE USED IN:

- Air Pollution Control Towers
- Absorption and Desorption Columns
- Cooling Towers
- Gas Scrubbers
- Water Treatment and Biofiltration Systems
- Stripping and Distillation Columns

INDUSTRIES INCLUDE

Chemical Processing • Mining • Petrochemical • Power Generation • Water & Wastewater Treatment • Pulp & Paper
Environmental Engineering • Fertilizer Production

AVAILABLE SIZES AND SPECIFICATIONS			
SIZES (mm)	SURFACE AREA (m2/m3)	FREE SPACE (%)	BULK DENSITY (kg/m3)
16 mm / 5.8"	320	88%	110
25 mm / 1"	209	91%	70
38 mm / 1.5"	127	93%	52
50 mm / 2"	100	94%	43.5
90 mm / 3.5"	59	95%	42



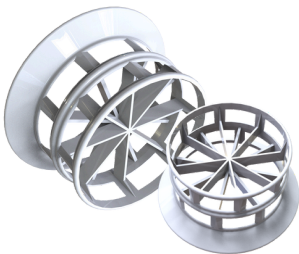
PLASTIC CASCADE RINGS

Plastic Cascade Rings are high-performance random packing elements designed to improve mass transfer efficiency in various industrial processing systems. Manufactured from high-quality thermoplastics such as PP, GFPP, HDPE, and PVDF, they provide excellent chemical resistance, low pressure drop, and efficient liquid-gas contact. Their open, ribbed cylindrical structure ensures maximum void space, optimal surface area, and superior performance in scrubbing, stripping, and absorption applications.

Their physical configuration and material versatility make them ideal for use in corrosive environments, thermal cycles, and systems where lightweight, chemically inert components are critical.



Physical and Chemical Properties	
Property	Value / Description
Material Options	PP, GFPP, HDPE, PVDF
Maximum Operating Temperature	Up to 143°C / 290°F depending on material
Chemical Resistance	Excellent across acids, alkalis, and solvents
Thermal Stability	High, suited to elevated process temperatures
Mechanical Strength	Impact-resistant, maintains integrity under continuous use
Design Profile	Cylindrical with internal ribs; promotes fluid mixing and gas contact
Weight	Lightweight; allows for easy installation and removal
Toxicity	Non-toxic; safe for food and water applications



Product Features & Performance Benefits

- **High Free Space:** Minimizes pressure drop across the packing bed
- **Optimized Surface Area:** Enhances liquid-vapor interaction and efficiency
- **Corrosion Resistant:** Withstands aggressive chemical conditions
- **Lightweight:** Simplifies handling and reduces structural load
- **Versatile Temperature Range:** Operates up to 143°C / 290°F depending on polymer
- **Available in Multiple Plastics:** Customizable to suit chemical compatibility and thermal demands
- **Cost-Effective:** Long service life and minimal maintenance requirements

Applications

Plastic Cascade Rings are used in:

- Gas Scrubbers
- Chemical Reactors
- Cooling Towers
- Water and Wastewater Treatment Units
- Biological Filters and Odor Control Systems
- Absorption and Stripping Columns

Industries Include

Chemical Processing • Water Treatment • Petrochemical • Mining • Power Generation • Environmental Engineering • Pulp & Paper
Fertilizer Manufacturing

Available Sizes and Specifications			
Sizes (mm)	Surface Area (m2/m3)	Free Space (%)	Bulk Density (kg/m3)
25 mm / 1"	228	90%	97.8
38 mm / 1.5"	132.5	91%	57.5
50 mm / 2"	114.2	92.7%	54.8
76 mm / 3.5"	90	90%	54.5



PLASTIC SUPER SADDLES

Plastic Super Saddles are high-performance random packing elements engineered to optimize mass transfer in chemical, petrochemical, and environmental processing systems. Manufactured from premium plastics including PP, GFPP, HDPE, and PVDF, they offer excellent thermal resistance, low pressure drop, and high void fraction.

Their open saddle shape promotes uniform fluid distribution and provides enhanced gas-liquid contact efficiency. These saddles are ideal for towers requiring corrosion resistance, lightweight construction, and reliable long-term performance across a variety of demanding applications.



PHYSICAL AND CHEMICAL PROPERTIES	
PROPERTY	VALUE / DESCRIPTION
Material Options	PP, GFPP, HDPE, PVDF
Maximum Operating Temperature	Up to 143°C / 290°F depending on material
Chemical Resistance	Excellent (especially in GFPP and PVDF)
UV Resistance	Moderate (HDPE, PP) to High (GFPP, PVDF)
Mechanical Strength	High impact strength, especially in GFPP
Toxicity	Non-toxic; suitable for chemical and water treatment applications
Weight	Lightweight for easy installation and low structural load



PRODUCT FEATURES & PERFORMANCE BENEFITS

- **High Free Space:** Reduces pressure drop and improves efficiency
- **Excellent Surface Area:** Enhances mass transfer and fluid mixing
- **Corrosion Resistant:** Suitable for acidic, basic, and chemical environments
- **Lightweight:** Minimizes tower structural requirements and eases handling
- **Thermal Resilience:** Operates effectively across a wide temperature range
- **Cost-Efficient:** Durable and long-lasting with minimal maintenance
- **Versatile Material Options:** Multiple plastic types available for varied media compatibility

APPLICATIONS

PLASTIC SUPER SADDLES ARE USED IN:

- Scrubbing Systems
- Absorption and Stripping Towers
- Biofilters and Trickling Filters
- Degasification Columns
- Cooling Tower Fill
- Chemical Reactors

INDUSTRIES INCLUDE

Water & Wastewater Treatment • Chemical Processing • Petrochemical • Environmental Services • Fertilizer Production
Power Generation • Pulp & Paper

AVAILABLE SIZES AND SPECIFICATIONS			
SIZES (mm)	SURFACE AREA (m2/m3)	FREE SPACE (%)	BULK DENSITY (kg/m3)
25 mm / 1"	199	90%	91
38 mm / 1.5"	178	92%	72
50 mm / 2"	1105	93%	60
76 mm / 3"	89	96%	50



PLASTIC TRI-PACK



Plastic Tri-Pack is a high-efficiency random packing made from durable, corrosion-resistant thermoplastics. Its unique spherical and interlocking open structure promotes superior gas-liquid contact, enhancing mass transfer efficiency in critical industrial operations.

This innovative design reduces pressure drop, improves liquid distribution, and eliminates dead spots—making it ideal for applications such as distillation, absorption, stripping, gas scrubbing, and water treatment. Whether handling harsh chemical media or optimizing gas-liquid interfaces, Plastic Tri-Pack delivers performance, durability, and cost-efficiency.

PHYSICAL AND CHEMICAL PROPERTIES	
PROPERTY	VALUE / DESCRIPTION
Material Options	PP, GFPP, HDPE, PVDF
Maximum Operating Temperature	Up to 143°C / 290°F depending on material
Corrosion Resistance	Excellent resistance to most acids, alkalis, and solvents
Thermal Stability	Ideal for low to moderate temperature environments
Flame Resistance	Material dependent; PVDF offers the highest thermal resistance
Toxicity	Non-toxic and suitable for industrial and environmental use
Weight	Lightweight and easy to install



PRODUCT FEATURES & PERFORMANCE BENEFITS

- **Open & Interlocking Geometry** : Prevents nesting, improves liquid dispersion, and maximizes surface area.
- **Low Pressure Drop** : Maintains efficient flow of both gas and liquid phases through packed columns.
- **High Void Fraction** : Excellent free volume for mass transfer with minimal resistance.
- **Corrosion Resistant** : Compatible with aggressive chemical media.
- **Mechanically Strong & Lightweight** : Easy to handle and install, while resisting crushing or deformation.
- **Versatile Performance**: Ideal for both new installations and tower retrofits across industries.

APPLICATIONS

PLASTIC TRI-PACK IS USED IN:

- Distillation and Fractionation Towers
- Absorbers and Strippers
- Gas Scrubbing Columns
- Water & Wastewater Treatment Units
- Solvent Recovery and Vapor Control Systems

INDUSTRIES INCLUDE

Chemical • Petrochemical • Water Treatment • Environmental • Pulp & Paper • Mining • Food & Beverage

AVAILABLE SIZES AND SPECIFICATIONS			
SIZES (mm)	SURFACE AREA (m2/m3)	FREE SPACE (%)	BULK DENSITY (kg/m3)
16 mm / 1"	85	90%	48
25 mm / 2"	80	93%	50
38 mm / 3.5"	38	95%	45



As a brand of Stanton Global, Pallchem is South Africa's leader in plastic, ceramic and steel mass transfer media — powering high-efficiency, absorption, stripping, scrubbing, and distillation in demanding industrial applications.

We help petrochemical, mining, and process industries run cleaner, smarter, and more sustainably, backed by ISO 9001:2015 certification for our locally produced plastic products.

Enhancing separation. Reducing emissions. Enabling a greener future.

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Let's optimise your process — sustainably.



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