Plastic Packings
Process Data

Product Bulletin 701

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Superior performance by design™

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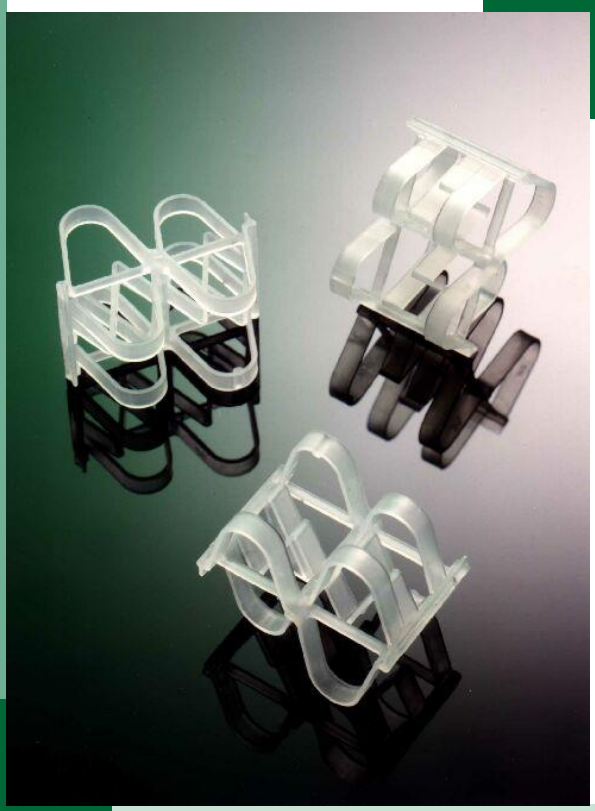
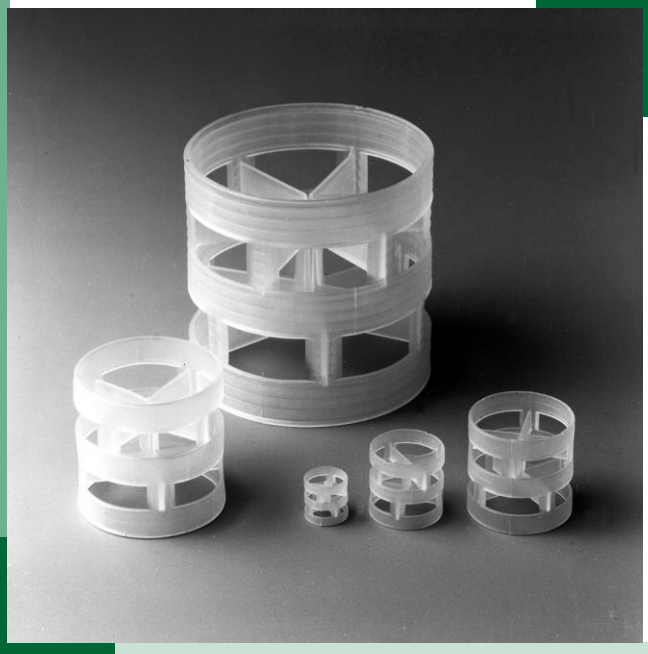
Raschig Super-Ring®

Size	Surface m^2/m^3	Free Vol. %
0.3	325	92
0.6	205	93
2	100	96
3	75	97



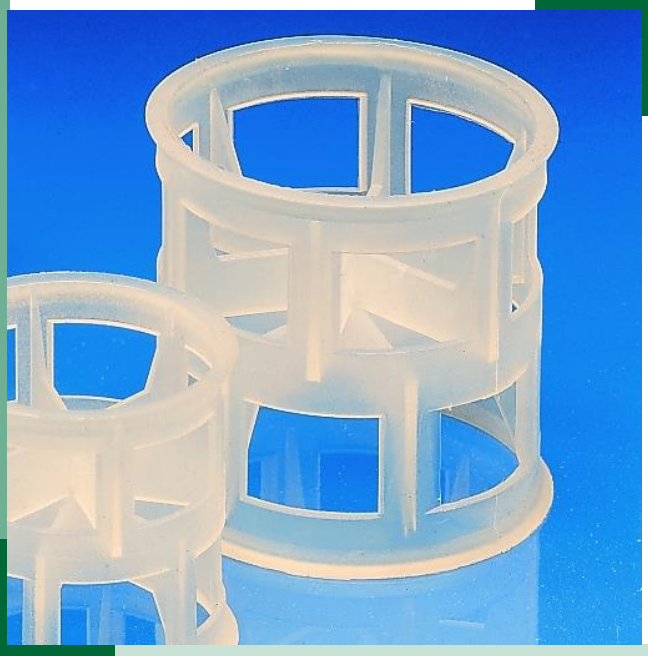
Pall-Ring

Size	Surface m^2/m^3	Free Vol. %
15	350	88
25	220	91
90	78	94



Ralu-Ring®

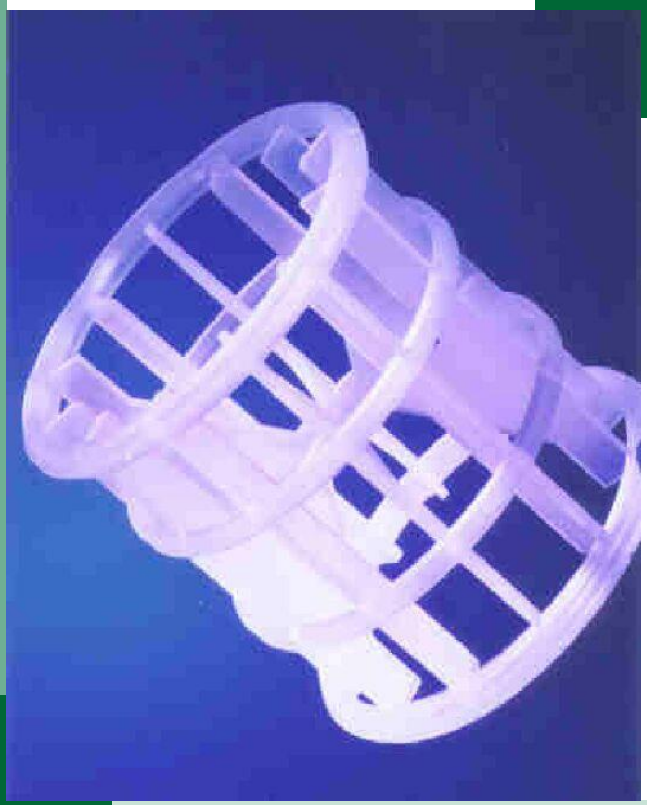
Size	Surface m^2/m^3	Free Vol. %
15	320	94
25	190	94
38	150	95
50	110	95
90	75	90
125	60	97



RASCHIG

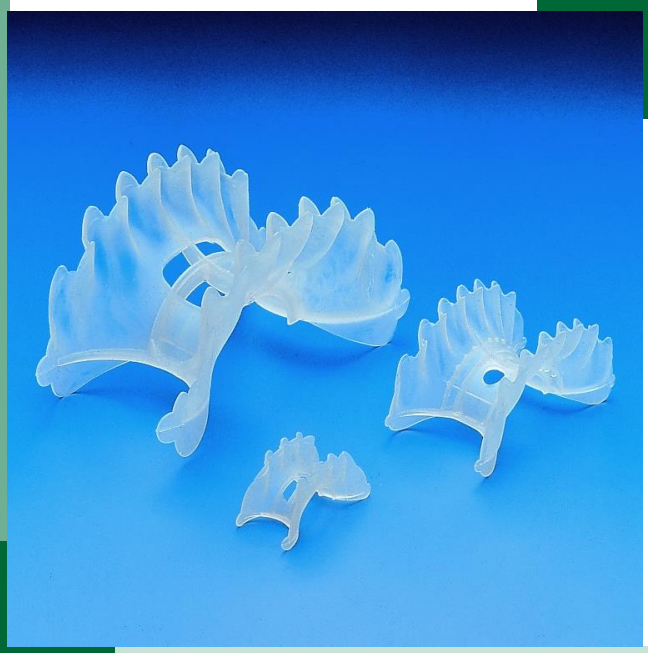
Ralu-Flow®

Size	Surface m^2/m^3	Free Vol. %
1	165	95
2	100	95



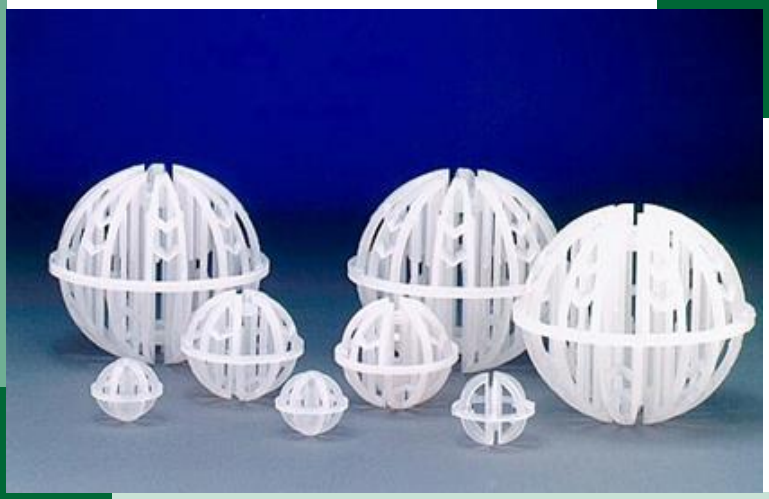
Super-Torus-Saddle

Size	Surface m^2/m^3	Free Vol. %
1	240	90
2	110	94
3	90	96



Hacketten® / Tri-Packs®

Size	Surface m^2/m^3	Free Vol. %
25	279	90
50	157	94
90	125	95



Multiplication factors to determine the weights for the high-performance thermoplastics listed below:

Multiplication factors to determine the weights for the high-performance thermoplastics listed below:

Polyethersulfone (PES)	1,85
Polyphenylene sulfide (PPS)	1,80
Liquid crystal polymer (LCP)	1,83
Polyvinylidene fluoride (PVDF)	2,0
fluor. Ethylenpropylene (FEP)	2,40
Perfluoralkoxypolymer (PFA)	2,40
Ethylen-Chlortrifluorethylen (E-CTFE)	1,97
Ethylen-Tetrafluorethylen (E-TFE)	2,20
Polyarylether Ketone (PAEK)	1,44
Polypropylene 30 % fiberglass-reinforced	1,25
Polyethylene	1,10

The technical data are average values and approximate sizes.
Subject to changes and improvements.
No claims may be derived from the information given.

Nomenclature

Latin symbols

a	m^2/m^3	specific surface area of packing
a_{Ph}	m^2/m^3	specific effective surface area of packing
C_S	m/s	$= u_V (\rho_V /(\rho_L - \rho_V))^{1/2}$ capacity factor
D_S, d_S	m	column diameter
F_V, F_G	m/s $(kg/m^3)^{1/2}$	$= u_V (\rho_V)^{1/2}$ gas capacity factor
F	-	Packing factor
g	m/s^2	= 9.81 m/s^2, acceleration
H	m	section height
HETP	m	height equivalent to a theoretical plate
HTU_{OV}	m	overall gas side height of a transfer unit
$k_G a_{Ph}$	1/s	volumetric mass transfer coefficient in gas phase
$k_L a_{Ph}$	1/s	volumetric mass transfer coefficient in liquid phase
L	kg/h	Liquid mass flow rate
h_L	m^3/m^3	superficial liquid hold-up
n_{th}	-	number of theoretical stages
p	bar	pressure
u_L	m^3/m^2h	superficial liquid velocity
u_V	m/s	superficial gas velocity
V, G	kg/h	Vapor mass flow rate

Greek symbols

$\beta_V a_{Ph}$	1/s	volumetric mass transfer coefficient in gas phase
$\beta_L a_{Ph}$	1/s	volumetric mass transfer coefficient in liquid phase
ρ_L	kg/m^3	liquid density
ρ_V	kg/m^3	gas density
$\Delta p/H$	mbar/m	specific pressure drop
η	Pas, kg/(ms)	dynamic viscosity

Subscripts

Fl	flooding condition
L	liquid phase
V	vapour phase