Physical Properties

Cellecta **YELOFOAM** extruded polystyrene (XPS) insulation products are manufactured to the highest possible specification.
All product's' physical properties are determined under strictly controlled laboratory conditions in accordance with harmonised European Standards.

Cellecta **YELOFOAM** XPS boards have excellent properties which will last the life of the building:

- ✓ Excellent thermal performance
- ✓ CFC & HCFC free
- ✓ Zero ODP
- ✓ High compressive strength
- ✓ Very low water absorption
- ✓ Closed-cell structure
- ✓ Zero capillary strength

100% 0 ODP

The closed-cell structure of **YELOFOAM** magnified by 500 times.

Independent Accreditation & Approvals

YELOFOAM extruded polystyrenes are manufactured in accordance with harmonised European Standard EN 13374: 2001, and where required carry CE mark.

YELOFOAM extruded polystyrene have been independently tested by a UKAS accredited laboratory in accordance with BS EN 12267: 2001.

The **TETRiS** flooring system has also undergone a rigorous testing regime carried out by CERAM Building Technology to confirm its structural integrity and long term performance.

UKAS Tested N° 26822 · CERAM BUILDING TECHNOLOGY · NHBC Accepted

			YELOFOAM®															
Properties(1)	**Standard**	**Unit**	**X2i**	**X3i**	**X4L**		**TETRIS**	**XCHiP**(3)	**XCPL**(4)	**XPLY**(5)	**XPERi**	**XR**	**XGYP**(6)	**X2D**	**X3L**	**XDRAIN**	**XMD**(7)
Thermal conductivity	BS EN 12667: 2001	W/mK ($_{90/90}$)	0.029	≤120 - 0.029 ≥120 - 0.031	≤60 - 0.030 70 - 80 - 0.032 ≥90 - 0.033		0.029	≤ 60 - 0.031 70 - 80 - 0.033 ≥90 - 0.034	≤120 - 0.029 ≥120 - 0.031	0.029	0.029	≤60 - 0.031 70 - 80 - 0.033 ≥90 - 0.034	≤60 - 0.031 70 - 80 - 0.033 ≥90 - 0.034	≤120 - 0.029 140 - 0.031 160 - 0.033	≤120 - 0.029 >120 - 0.031	≤120 - 0.029 >120 - 0.031	0.029
Compressive strength(2)	BS EN 826	kPa	≤40mm 250 ≥50mm 300	350	480		320	280	300	≤40mm 250 ≥50mm 300	≤40mm 250 ≥50mm 300	280	280	≤40mm 250 ≥50mm 300	350	300	300
Grade	BS EN 826	–	Cs250 CS300	Cs250 CS300	CS400		CS300	CS250	CS300	Cs250 CS300	Cs250 CS300	Cs250	CS250	Cs250 CS300	CS300	CS300	CS300
Long-term water absorption by immersion	BS EN 12087	% Volume	<0.7%	<0.7%	<0.7%		<0.7%	<0.7%	<0.7%	<0.7%	<0.7%	<0.7%	<0.7%	<0.7%	<0.7%	<0.7%	<0.7%
Water vapour diffusion factor	BS EN 12086		100-200	100-200	100-200		100-200	100	100-200	100-200	100-200	100	100	100-200	100-200	100-200	100-200
Capillarity	–	–	None	None	None		None	None	None	None	None	None	None	None	None	None	None
Density (minimum)	BS EN 1602	kg/m^3	30	34	40		34	30	34	30	34	30	30	30	34	34	30
Temperature range	–	°C	-50/+75	-50/+75	-50/+75		-50/+75	-50/+75	-50/+75	-50/+75	-50/+75	-50/+75	-50/+75	-50/+75	-50/+75	-50/+75	-50/+75
Surface finish	–	– –	Skin Skin	Skin Skin	Skin Skin		Skin Skin	18mm P5 Chipboard Skin/ Planed	6mm Grey cementitious or white Glasroc sheet Skin	12mm Plywood Skin	Skin Skin	Planed Planed	10 or 12.5mm Plasterboard Planed	Skin Skin	Skin Skin	Skin Skin & drainage channels	6mm High impact cementitious sheet Skin

(1) Physical properties of extruded polystyrene
(2) Minimum value at 10% compression

(3) Faced with a 18mm P5 moisture resistant chipboard with a thermal conductivity of 0.14W/mK.
(4) Faced with a 6mm class O high impact reinforced cement building board) with a thermal conductivity of 0.41W/mK or a 6mm class O white glasroc multiboard with a thermal conductivity of 0.29W/mK.
(5) Faced with a 12mm Far Eastern grade plywood with a thermal conductivity of 0.14W/mK.
(6) Faced with either a class O 10mm or 12.5mm plasterboard with a thermal conductivity of 0.16W/mK.
(7) Faced with a 6mm class O high impact reinforced cement building board with a thermal conductivity of 0.41W/mK.

Board dimensions

	Unit	X2i	X3i	X4L			TETRIS	XCHiP	XCPL	XPLY	XPERi	XR	XGYP	X2D	X3L	XDRAIN	XMD
Board size	mm	600 x 2500	600 x 2500	600 x 1250			600 x 2500 300 x 2500	600 x 2400	1200 x 2400	1200 x 2400	600 x 2500	600 x 2500	1200 x 2400	600 x 2500	600 x 1250	600 x 1250	1200 x 2400 or cut to size
Standard thickness' (9)	mm	20 25 30 35 40 50 60 65 70 75 80 90 100 - - -	- - 30 - 40 50 60 - - 75 80 90 100 120 140 160	- - - - - 50 60 - - 75 80 90 100 120 140 160			- - - - - - - - - - - 90 100 120 140 160	18 + 20 18 + 25 18 + 30 18 + 35 18 + 40 18 + 50 18 + 60 18 + 65 18 + 70 18 + 75 18 + 80 18 + 90 18 + 100 18 + 120 18 + 140 18 + 160	- - - - - - - - - - 6 + 80 6 + 90 6 + 100 6 + 120 6 + 140 6 + 160	- - 12 + 30 12 + 35 12 + 40 12 + 50 12 + 60 12 + 65 12 + 70 12 + 75 12 + 80 12 + 90 12 + 100 - - -	- - 30 40 - 50 60 - - - 80 - 100 - - -	20 25 30 - 40 50 60 - - - 80 90 100 120 140 150	10 / 12.5 + 20 10 / 12.5 + 25 10 / 12.5 + 30 - 10 / 12.5 + 40 10 / 12.5 + 50 10 / 12.5 + 60 - - - 10 / 12.5 + 80 10 / 12.5 + 90 10 / 12.5 + 100 10 / 12.5 + 120 - -	- - 30 40 - 50 60 - - - 80 - 100 120 140 160	- - - - - - 50 60 - 70 75 80 90 100 120 140 160	- - - - - 50 60 - 70 75 80 90 100 120 140 160	- - - - - 6 + 50 6 + 60 - - 6 + 75 6 + 80 6 + 90 6 + 100 6 + 120 - -
Edge profile	-	Square	Square	Shiplap			Rebated	Tongue & grooved	Square	Square	Tongue & grooved	Square	Square	Tongue & grooved	Shiplap	Shiplap	Square

Note. (9) Other sizes manufactured to order subject to minimum quantity.

Properties	Standard	Unit	XES
Thermal conductivity	BS EN 12667: 2001	W/mK ($_{90/90}$)	0.029
Compressive strength	BS EN 826	kPa	250
Long-term water absorption by immersion	BS EN 12087	% Volume	<0.5%
Temperature range	–	°C	-50/+75
Surface finish	–	–	Skin
Strip size / closer size	–	mm	Cut to suit (600 x 2500 max)
Standard thickness' (cavity closer widths)	–	mm	20 25 30 35 40 50