

# VigoSpace™ Aliplast Thermal-Break Series Energy Rating Information

All simulation of the following products have been performed using Australian Fenestration Rating Council(AFRC) procedures and NFRC Simulation Manual July 2013 in LBNL Windows7.3 and LBNL Therm7.3.

The performance values displayed on the following pages are for use in the calculation of **Whole of Window (WoW)** energy requirements with reference to G.James window rating datas in accordance with Australian National Construction Code, Volume 1 (section J) & Volume 2 Part 3.12. These values are not to be used for the purpose of glass only energy requirements.

The Energy Rating provides U-value, Solar Heat Gain Coefficient(SHGC), Visible Transmittance(Tvis) and Australian Window Energy Rating.

**U-value** is the rate of heat transfer of the window or door. U-Factor values generally range from 1.4 to 7.0 in  $W/m^2 \cdot K$ . The Lower the U-factor, the better the window or door insulates.

**Solar Heat Gain Coefficient(SHGC)** is the fraction of solar energy transmitted and indicates how much solar heat window or door (glass and frame) gained and released inward. SHGC is measured on a scale of 0 to 1, values typically range from 0.25 to 0.80. The lower the SHGC,the less solar heat the window transmits.

**Tvis** is the fraction of how much light coming through the window or door (glass and frame). Tvis is measured on a scale of 0 to 1, the higher the value is, the more light coming through the window or door.

## NOTES

1. U-value is the whole window U-value
2. SHGC is the whole window solar heat gain coefficient
3. Tvis is the whole window visible (light) transmittance
4. 5 / 12 / 5 means double 5mm clear tempered glass with 12mm air gap, Ar is argon gap
5. EA is for Energy Advantage Low-E coating, OL is Online Low-E coating.
6. #2 is the 2nd surface of glass from window outside
7. Cooling and Heating Star of Australian Window Energy Rating is with reference to WERS Certified Products Directory and relevant ratings of A&L, Capral, G.James and Trend Windows.

©VigoSpace Aluminium Window & Door. All Rights Reserved.

Glazing	U-value	SHGC	Tvis	Australian Window Energy Rating	
				Cooling Star	Heating Star
$W/m^2 \cdot K$					
<b>Ecofutural Awning &amp; Casement Window</b>					
<b>double glazing</b>					
5 / 12 / 5	3.11	0.61	0.63	★★★★	★★★★★★
5 lowE, #2 / 12 / 5 (EA)	2.35	0.52	0.59	★★★★	★★★★★★
5 lowE, #2 / 12Ar / 5 (EA)	2.15	0.51	0.59	★★★★★	★★★★★★
5 lowE, #2 / 12 / 5 (OL120)	2.17	0.50	0.55	★★★★★	★★★★★★
6 / 12 / 6	3.10	0.59	0.63	★★★★	★★★★★★
6 lowE, #2 / 12 / 6 (EA)	2.34	0.50	0.58	★★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 (EA)	2.14	0.50	0.58	★★★★★	★★★★★★
6 lowE, #2 / 12 / 6 (OL120)	2.15	0.50	0.54	★★★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 lowE , #4 (EA, OL120)	1.87	0.45	0.52	★★★★★	★★★★★★
6 Bronze / 12 / 6	3.10	0.40	0.35	★★★★★	★★★★★★
6 Marine Blue / 12 / 6	3.10	0.42	0.45	★★★★	★★★★★★
6 F Green / 12 / 6	3.10	0.38	0.52	★★★★★	★★★★★★
6 EuroGrey / 12 / 6	3.10	0.38	0.31	★★★★★	★★★★★★
6 Bronze / 12 / 6 lowE (EA)	2.34	0.35	0.32	★★★★★	★★★★★★
6 Marine Blue / 12 / 6 lowE (EA)	2.34	0.38	0.42	★★★★★	★★★★★★
6 F Green / 12 / 6 lowE (EA)	2.34	0.34	0.49	★★★★★	★★★★★★
6 Bule Green / 12 / 6 lowE (EA)	2.34	0.38	0.49	★★★★★	★★★★★★
6 EuroGrey / 12 / 6 lowE (EA)	2.34	0.33	0.29	★★★★★	★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	3.01	0.24	0.14	★★★★★	★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.33	0.20	0.13	★★★★★	★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	2.03	0.16	0.12	★★★★★	★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	3.03	0.25	0.29	★★★★★	★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.34	0.22	0.27	★★★★★	★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	2.04	0.18	0.26	★★★★★	★★★★★★

6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	3.01	0.24	0.14	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.33	0.20	0.13	★★★★★★↓	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	2.03	0.15	0.12	★★★★★★★	★★★★★★★
<b>triple glazing</b>					
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.92	0.48	0.50	★★★★★	★★★★★★★
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.67	0.42	0.47	★★★★★★↓	★★★★★★★
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.51	0.40	0.44	★★★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (EA)	1.87	0.46	0.49	★★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (OL120)	1.63	0.41	0.46	★★★★★★↓	★★★★★★★
6 lowE, #2 / 12Ar / 6 lowE, #4 / 12Ar / 6 (OL120, EA)	1.48	0.39	0.43	★★★★★★	★★★★★★★
<b>Ecofutural Tilt&amp;Turn Window</b>					
<b>double glazing</b>					
5 / 12 / 5	3.06	0.61	0.65	★★★↓	★★★★★★★↓
5 lowE, #2 / 12 / 5 (EA)	2.30	0.52	0.60	★★★★	★★★★★★★
5 lowE, #2 / 12Ar / 5 (EA)	2.11	0.52	0.60	★★★★★★↓	★★★★★★★↓
5 lowE, #2 / 12 / 5 (OL120)	2.10	0.50	0.55	★★★★★★↓	★★★★★★★↓
6 / 12 / 6	3.05	0.59	0.65	★★★↓	★★★★★★★↓
6 lowE, #2 / 12 / 6 (EA)	2.30	0.51	0.60	★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 (EA)	2.10	0.51	0.60	★★★★★★↓	★★★★★★★↓
6 lowE, #2 / 12 / 6 (OL120)	2.09	0.50	0.54	★★★★★★↓	★★★★★★★↓
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.83	0.45	0.52	★★★★★★	★★★★★★★
6 Bronze / 12 / 6	3.05	0.40	0.36	★★★★★★↓	★★★★★★↓
6 Marine Blue / 12 / 6	3.05	0.43	0.47	★★★★	★★★★★★
6 F Green / 12 / 6	3.05	0.39	0.54	★★★★★★↓	★★★★★★↓
6 EuroGrey / 12 / 6	3.05	0.38	0.32	★★★★★★↓	★★★★★★↓
6 Bronze / 12 / 6 lowE (EA)	2.30	0.35	0.33	★★★★★★↓	★★★★★★★↓
6 Marine Blue / 12 / 6 lowE (EA)	2.30	0.38	0.44	★★★★★★↓	★★★★★★★↓
6 F Green / 12 / 6 lowE (EA)	2.30	0.34	0.50	★★★★★★↓	★★★★★★★↓
6 Bule Green / 12 / 6 lowE (EA)	2.30	0.38	0.51	★★★★★★↓	★★★★★★★↓
6 EuroGrey / 12 / 6 lowE (EA)	2.30	0.34	0.30	★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	2.96	0.25	0.15	★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.29	0.21	0.14	★★★★★★★↓	★★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	1.99	0.17	0.13	★★★★★★★	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	2.97	0.26	0.30	★★★★★★↓	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.29	0.22	0.28	★★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	2.00	0.19	0.26	★★★★★★★	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	2.96	0.25	0.15	★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.29	0.21	0.14	★★★★★★★↓	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	1.99	0.16	0.13	★★★★★★★	★★★★★★★
<b>triple glazing</b>					
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.89	0.48	0.51	★★★★★	★★★★★★★
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.64	0.41	0.49	★★★★★★↓	★★★★★★★
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.48	0.40	0.45	★★★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (EA)	1.85	0.46	0.50	★★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (OL120)	1.61	0.40	0.47	★★★★★★↓	★★★★★★★
6 lowE, #2 / 12Ar / 6 lowE, #4 / 12Ar / 6 (OL120, EA)	1.45	0.39	0.45	★★★★★★	★★★★★★★
<b>Ecofutural Fixed Window</b>					
<b>double glazing</b>					
5 / 12 / 5	2.88	0.64	0.68	★★★★	★★★★★★★
5 lowE, #2 / 12 / 5 (EA)	2.17	0.54	0.63	★★★★★★↓	★★★★★★★↓
5 lowE, #2 / 12Ar / 5 (EA)	1.99	0.54	0.63	★★★★★★	★★★★★★★
5 lowE, #2 / 12 / 5 (OL120)	1.97	0.52	0.56	★★★★★★	★★★★★★★
6 / 12 / 6	2.87	0.62	0.67	★★★★	★★★★★★★
6 lowE, #2 / 12 / 6 (EA)	2.17	0.53	0.63	★★★★★★↓	★★★★★★★↓
6 lowE, #2 / 12Ar / 6 (EA)	1.98	0.53	0.63	★★★★★★	★★★★★★★
6 lowE, #2 / 12 / 6 (OL120)	1.96	0.52	0.55	★★★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.72	0.46	0.54	★★★★★★↓	★★★★★★★↓
6 Bronze / 12 / 6	2.87	0.42	0.38	★★★★★★	★★★★★★

6 Marine Blue / 12 / 6	2.87	0.44	0.49	★★★★↓	★★★★★★↓
6 F Green / 12 / 6	2.87	0.40	0.56	★★★★	★★★★★★
6 EuroGrey / 12 / 6	2.87	0.40	0.33	★★★★	★★★★★★
6 Bronze / 12 / 6 lowE (EA)	2.17	0.37	0.35	★★★★★	★★★★★★
6 Marine Blue / 12 / 6 lowE (EA)	2.17	0.40	0.45	★★★★★	★★★★★★
6 F Green / 12 / 6 lowE (EA)	2.17	0.36	0.52	★★★★★	★★★★★★
6 Bule Green / 12 / 6 lowE (EA)	2.17	0.40	0.53	★★★★★	★★★★★★
6 EuroGrey / 12 / 6 lowE (EA)	2.17	0.35	0.31	★★★★★	★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	2.79	0.26	0.15	★★★★★	★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.16	0.21	0.14	★★★★★	★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	1.88	0.17	0.13	★★★★★↓	★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	2.81	0.27	0.32	★★★★★	★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.16	0.23	0.30	★★★★★	★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	1.89	0.19	0.28	★★★★★↓	★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	2.79	0.26	0.15	★★★★★	★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.16	0.21	0.14	★★★★★	★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	1.88	0.16	0.13	★★★★★↓	★★★★★★↓
<b>triple glazing</b>					
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.79	0.50	0.54	★★★★↓	★★★★★★↓
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.56	0.42	0.51	★★★★	★★★★★★↓
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.45	0.40	0.47	★★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (EA)	1.72	0.48	0.53	★★★★↓	★★★★★★↓
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (OL120)	1.51	0.42	0.51	★★★★	★★★★★★↓
6 lowE, #2 / 12Ar / 6 lowE, #4 / 12Ar / 6 (OL120, EA)	1.41	0.40	0.47	★★★★	★★★★★★
<b>Ecofutural Hinged Door</b>					
<b>double glazing</b>					
5 / 12 / 5	3.04	0.61	0.64	★★★	★★★★★★↓
5 lowE, #2 / 12 / 5 (EA)	2.29	0.52	0.59	★★★	★★★★★★
5 lowE, #2 / 12Ar / 5 (EA)	2.09	0.51	0.59	★★★↓	★★★★★★↓
5 lowE, #2 / 12 / 5 (OL120)	2.07	0.50	0.54	★★★↓	★★★★★★↓
6 / 12 / 6	3.03	0.59	0.63	★★★	★★★★★★↓
6 lowE, #2 / 12 / 6 (EA)	2.28	0.50	0.59	★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 (EA)	2.09	0.50	0.59	★★★↓	★★★★★★↓
6 lowE, #2 / 12 / 6 (OL120)	2.07	0.49	0.53	★★★↓	★★★★★★↓
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.81	0.45	0.52	★★★★	★★★★★★
6 Bronze / 12 / 6	3.03	0.40	0.35	★★★↓	★★★★★↓
6 Marine Blue / 12 / 6	3.03	0.42	0.46	★★★	★★★★★★
6 F Green / 12 / 6	3.03	0.38	0.53	★★★↓	★★★★★↓
6 EuroGrey / 12 / 6	3.03	0.38	0.31	★★★↓	★★★★★↓
6 Bronze / 12 / 6 lowE (EA)	2.28	0.35	0.33	★★★★↓	★★★★★★↓
6 Marine Blue / 12 / 6 lowE (EA)	2.28	0.38	0.43	★★★★↓	★★★★★★↓
6 F Green / 12 / 6 lowE (EA)	2.28	0.34	0.49	★★★★↓	★★★★★★↓
6 Bule Green / 12 / 6 lowE (EA)	2.28	0.38	0.50	★★★★↓	★★★★★★↓
6 EuroGrey / 12 / 6 lowE (EA)	2.28	0.33	0.29	★★★★↓	★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	2.93	0.24	0.14	★★★★↓	★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.27	0.20	0.14	★★★★★↓	★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	1.98	0.16	0.12	★★★★★	★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	2.95	0.25	0.30	★★★★↓	★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.28	0.22	0.28	★★★★★↓	★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	1.99	0.18	0.26	★★★★★	★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	2.93	0.24	0.14	★★★★↓	★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.27	0.20	0.14	★★★★★↓	★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	1.98	0.16	0.12	★★★★★	★★★★★★
<b>triple glazing</b>					
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.88	0.48	0.50	★★★★	★★★★★★
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.63	0.42	0.48	★★★★↓	★★★★★★
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.47	0.40	0.44	★★★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (EA)	1.83	0.46	0.49	★★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (OL120)	1.58	0.40	0.47	★★★★↓	★★★★★★

6 lowE, #2 / 12Ar / 6 lowE, #4 / 12Ar / 6 (OL120, EA)	1.43	0.39	0.45	★★★★★	★★★★★★★★★★
<b>Slide+ Sliding Window</b>					
5 / 12 / 5	3.27	0.61	0.64	★★★↓	★★★★★★↓
5 lowE, #2 / 12 / 5 (EA)	2.47	0.52	0.59	★★★★	★★★★★★
5 lowE, #2 / 12Ar / 5 (EA)	2.26	0.52	0.59	★★★★↓	★★★★★★↓
5 lowE, #2 / 12 / 5 (OL120)	2.21	0.51	0.54	★★★★↓	★★★★★★↓
6 / 12 / 6	3.26	0.59	0.63	★★★↓	★★★★★★↓
6 lowE, #2 / 12 / 6 (EA)	2.46	0.51	0.59	★★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 (EA)	2.25	0.51	0.59	★★★★↓	★★★★★★↓
6 lowE, #2 / 12 / 6 (OL120)	2.20	0.50	0.53	★★★★↓	★★★★★★↓
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.96	0.44	0.51	★★★★★	★★★★★★★
6 Bronze / 12 / 6	3.26	0.40	0.35	★★★★↓	★★★★★★↓
6 Marine Blue / 12 / 6	3.26	0.43	0.46	★★★★	★★★★★★
6 F Green / 12 / 6	3.26	0.39	0.53	★★★★↓	★★★★★★↓
6 EuroGrey / 12 / 6	3.26	0.38	0.31	★★★★↓	★★★★★★↓
6 Bronze / 12 / 6 lowE (EA)	2.46	0.35	0.33	★★★★★↓	★★★★★★★↓
6 Marine Blue / 12 / 6 lowE (EA)	2.46	0.38	0.43	★★★★★↓	★★★★★★★↓
6 F Green / 12 / 6 lowE (EA)	2.46	0.34	0.49	★★★★★↓	★★★★★★★↓
6 Bule Green / 12 / 6 lowE (EA)	2.46	0.38	0.49	★★★★★↓	★★★★★★★↓
6 EuroGrey / 12 / 6 lowE (EA)	2.46	0.34	0.29	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	3.16	0.25	0.14	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.45	0.21	0.13	★★★★★↓	★★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	2.13	0.17	0.12	★★★★★↓	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	3.18	0.26	0.30	★★★★★↓	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.45	0.22	0.28	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	2.15	0.19	0.26	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	3.16	0.25	0.14	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.45	0.21	0.13	★★★★★↓	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	2.13	0.16	0.12	★★★★★↓	★★★★★★★
<b>Superglide Sliding Door</b>					
<b>double glazing</b>					
5 / 12 / 5	3.17	0.64	0.67	★★★↓	★★★★★★↓
5 lowE, #2 / 12 / 5 (EA)	2.39	0.54	0.61	★★★★	★★★★★★
5 lowE, #2 / 12Ar / 5 (EA)	2.19	0.54	0.61	★★★★↓	★★★★★★↓
5 lowE, #2 / 12 / 5 (OL120)	2.16	0.52	0.56	★★★★↓	★★★★★★↓
6 / 12 / 6	3.16	0.62	0.66	★★★↓	★★★★★★↓
6 lowE, #2 / 12 / 6 (EA)	2.38	0.53	0.61	★★★★	★★★★★★
6 lowE, #2 / 12Ar / 6 (EA)	2.18	0.53	0.61	★★★★↓	★★★★★★↓
6 lowE, #2 / 12 / 6 (OL120)	2.15	0.52	0.56	★★★★↓	★★★★★★↓
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.90	0.46	0.53	★★★★★	★★★★★★★
6 Bronze / 12 / 6	3.16	0.41	0.37	★★★★↓	★★★★★★↓
6 Marine Blue / 12 / 6	3.16	0.44	0.48	★★★★	★★★★★★
6 F Green / 12 / 6	3.16	0.40	0.55	★★★★↓	★★★★★★↓
6 EuroGrey / 12 / 6	3.16	0.40	0.33	★★★★↓	★★★★★★↓
6 Bronze / 12 / 6 lowE (EA)	2.38	0.37	0.34	★★★★★↓	★★★★★★★↓
6 Marine Blue / 12 / 6 lowE (EA)	2.38	0.40	0.44	★★★★★↓	★★★★★★★↓
6 F Green / 12 / 6 lowE (EA)	2.38	0.36	0.51	★★★★★↓	★★★★★★★↓
6 Bule Green / 12 / 6 lowE (EA)	2.38	0.40	0.51	★★★★★↓	★★★★★★★↓
6 EuroGrey / 12 / 6 lowE (EA)	2.38	0.35	0.30	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	3.07	0.26	0.15	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.38	0.21	0.14	★★★★★↓	★★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	2.07	0.17	0.13	★★★★★↓	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	3.09	0.27	0.31	★★★★★↓	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.38	0.23	0.29	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	2.08	0.19	0.27	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	3.07	0.26	0.15	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.38	0.21	0.14	★★★★★↓	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	2.07	0.16	0.13	★★★★★↓	★★★★★★★

triple glazing						
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.96	0.50	0.52	★★★★	★★★★★★	
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.70	0.42	0.50	★★★★↓	★★★★★★	
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.54	0.40	0.46	★★★★★	★★★★★★	
6 lowE, #2 / 9Ar / 6 / 9Ar / 6 (EA)	1.90	0.48	0.51	★★★★	★★★★★★	
6 lowE, #2 / 9Ar / 6 / 9Ar / 6 (OL120)	1.66	0.44	0.49	★★★★↓	★★★★★★	
6 lowE, #2 / 9Ar / 6 lowE, #4 / 9Ar / 6 (OL120, EA)	1.51	0.42	0.45	★★★★★	★★★★★★	
Ultraglide Lift-Sliding Door						
double glazing						
5 / 12 / 5	3.08	0.66	0.69	★★↓	★★★★★★↓	
5 lowE, #2 / 12 / 5 (EA)	2.32	0.56	0.64	★★★	★★★★★★	
5 lowE, #2 / 12Ar / 5 (EA)	2.12	0.56	0.64	★★★↓	★★★★★★↓	
5 lowE, #2 / 12 / 5 (OL120)	2.11	0.54	0.59	★★★↓	★★★★★★↓	
6 / 12 / 6	3.07	0.64	0.68	★★↓	★★★★★★↓	
6 lowE, #2 / 12 / 6 (EA)	2.31	0.55	0.64	★★★	★★★★★★	
6 lowE, #2 / 12Ar / 6 (EA)	2.12	0.55	0.64	★★★↓	★★★★★★↓	
6 lowE, #2 / 12 / 6 (OL120)	2.11	0.54	0.58	★★★↓	★★★★★★↓	
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.86	0.48	0.55	★★★★	★★★★★★	
6 Bronze / 12 / 6	3.07	0.43	0.38	★★★★↓	★★★★★★↓	
6 Marine Blue / 12 / 6	3.07	0.46	0.50	★★★	★★★★★★	
6 F Green / 12 / 6	3.07	0.42	0.57	★★★★↓	★★★★★★↓	
6 EuroGrey / 12 / 6	3.07	0.41	0.34	★★★★↓	★★★★★★↓	
6 Bronze / 12 / 6 lowE (EA)	2.31	0.38	0.35	★★★★★↓	★★★★★★↓	
6 Marine Blue / 12 / 6 lowE (EA)	2.31	0.41	0.46	★★★★★↓	★★★★★★↓	
6 F Green / 12 / 6 lowE (EA)	2.31	0.37	0.53	★★★★★↓	★★★★★★↓	
6 Bule Green / 12 / 6 lowE (EA)	2.31	0.41	0.53	★★★★★↓	★★★★★★↓	
6 EuroGrey / 12 / 6 lowE (EA)	2.31	0.36	0.31	★★★★★↓	★★★★★★↓	
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	2.98	0.27	0.16	★★★★★↓	★★★★★★↓	
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.31	0.22	0.15	★★★★★↓	★★★★★★	
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	2.01	0.18	0.13	★★★★★	★★★★★★	
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	3.00	0.28	0.32	★★★★★↓	★★★★★★	
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.31	0.24	0.30	★★★★★↓	★★★★★★↓	
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	2.02	0.20	0.28	★★★★★	★★★★★★	
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	2.98	0.27	0.16	★★★★★↓	★★★★★★↓	
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.31	0.22	0.15	★★★★★↓	★★★★★★	
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	2.01	0.17	0.13	★★★★★	★★★★★★	
triple glazing						
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.90	0.52	0.54	★★★★	★★★★★★	
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.65	0.42	0.52	★★★★★↓	★★★★★★	
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.49	0.40	0.48	★★★★★	★★★★★★	
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (EA)	1.84	0.51	0.52	★★★★	★★★★★★	
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (OL120)	1.60	0.40	0.52	★★★★★↓	★★★★★★	
6 lowE, #2 / 12Ar / 6 lowE, #4 / 12Ar / 6 (OL120, EA)	1.45	0.39	0.47	★★★★★	★★★★★★	
Ultraglide Lift-Sliding Stacking Door						
double glazing						
5 / 12 / 5	3.14	0.64	0.67	★★↓	★★★★★★↓	
5 lowE, #2 / 12 / 5 (EA)	2.37	0.55	0.62	★★★	★★★★★★↓	
5 lowE, #2 / 12Ar / 5 (EA)	2.17	0.55	0.62	★★★↓	★★★★★★↓	
5 lowE, #2 / 12 / 5 (OL120)	2.15	0.52	0.58	★★★↓	★★★★★★↓	
6 / 12 / 6	3.13	0.62	0.66	★★↓	★★★★★★↓	
6 lowE, #2 / 12 / 6 (EA)	2.36	0.53	0.62	★★★	★★★★★★↓	
6 lowE, #2 / 12Ar / 6 (EA)	2.16	0.53	0.62	★★★↓	★★★★★★↓	
6 lowE, #2 / 12 / 6 (OL120)	2.14	0.52	0.57	★★★↓	★★★★★★↓	
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.88	0.47	0.54	★★★★	★★★★★★	
6 Bronze / 12 / 6	3.13	0.42	0.37	★★★★↓	★★★★★★↓	
6 Marine Blue / 12 / 6	3.13	0.45	0.48	★★★	★★★★★★	
6 F Green / 12 / 6	3.13	0.40	0.55	★★★★↓	★★★★★★↓	
6 EuroGrey / 12 / 6	3.13	0.40	0.33	★★★★↓	★★★★★★↓	

6 Bronze / 12 / 6 lowE (EA)	2.36	0.37	0.34	★★★★★↓	★★★★★★★↓
6 Marine Blue / 12 / 6 lowE (EA)	2.36	0.40	0.45	★★★★★↓	★★★★★★★↓
6 F Green / 12 / 6 lowE (EA)	2.36	0.36	0.52	★★★★★↓	★★★★★★★↓
6 Bule Green / 12 / 6 lowE (EA)	2.36	0.40	0.52	★★★★★↓	★★★★★★★↓
6 EuroGrey / 12 / 6 lowE (EA)	2.36	0.35	0.31	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	3.04	0.26	0.15	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.35	0.22	0.14	★★★★★★★↓	★★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	2.05	0.17	0.13	★★★★★★★	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	3.06	0.27	0.31	★★★★★↓	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.36	0.23	0.29	★★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	2.06	0.20	0.27	★★★★★★★	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	3.04	0.26	0.15	★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.35	0.22	0.14	★★★★★★★↓	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	2.05	0.16	0.13	★★★★★★★	★★★★★★★

**triple glazing**

5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.94	0.51	0.53	★★★★★	★★★★★★★
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.68	0.42	0.50	★★★★★↓	★★★★★★★
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.52	0.40	0.47	★★★★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (EA)	1.89	0.50	0.52	★★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 / 12Ar / 6 (OL120)	1.63	0.41	0.49	★★★★★↓	★★★★★★★
6 lowE, #2 / 12Ar / 6 lowE, #4 / 12Ar / 6 (OL120, EA)	1.46	0.40	0.46	★★★★★★★	★★★★★★★

**Panorama Bi-Folding Door**

**double glazing**

5 / 12 / 5	3.09	0.63	0.66	★★★↓	★★★★★★★↓
5 lowE, #2 / 12 / 5 (EA)	2.33	0.53	0.61	★★★★	★★★★★★★
5 lowE, #2 / 12Ar / 5 (EA)	2.13	0.53	0.61	★★★★★↓	★★★★★★★↓
5 lowE, #2 / 12 / 5 (OL120)	2.11	0.51	0.56	★★★★★↓	★★★★★★★↓
6 / 12 / 6	3.08	0.61	0.65	★★★↓	★★★★★★★↓
6 lowE, #2 / 12 / 6 (EA)	2.32	0.52	0.61	★★★★	★★★★★★★
6 lowE, #2 / 12Ar / 6 (EA)	2.12	0.52	0.61	★★★★★↓	★★★★★★★↓
6 lowE, #2 / 12 / 6 (OL120)	2.10	0.51	0.56	★★★★★↓	★★★★★★★↓
6 lowE, #2 / 12Ar / 6 lowE, #4 (EA, OL120)	1.85	0.46	0.52	★★★★★★	★★★★★★★
6 Bronze / 12 / 6	3.08	0.41	0.36	★★★★★↓	★★★★★★★↓
6 Marine Blue / 12 / 6	3.08	0.43	0.47	★★★★	★★★★★★★
6 F Green / 12 / 6	3.08	0.39	0.54	★★★★★↓	★★★★★★★↓
6 EuroGrey / 12 / 6	3.08	0.39	0.32	★★★★★↓	★★★★★★★↓
6 Bronze / 12 / 6 lowE (EA)	2.32	0.36	0.34	★★★★★★★↓	★★★★★★★↓
6 Marine Blue / 12 / 6 lowE (EA)	2.32	0.39	0.44	★★★★★★★↓	★★★★★★★↓
6 F Green / 12 / 6 lowE (EA)	2.32	0.35	0.51	★★★★★★★↓	★★★★★★★↓
6 Bule Green / 12 / 6 lowE (EA)	2.32	0.39	0.51	★★★★★★★↓	★★★★★★★↓
6 EuroGrey / 12 / 6 lowE (EA)	2.32	0.34	0.30	★★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6	2.99	0.25	0.15	★★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12 / 6 lowE, #3(EA)	2.31	0.21	0.14	★★★★★★★↓	★★★★★★★
6 Solar Reflective on 05 Marine Blue 0540, #2 / 12Ar / 6 lowE, #3 (OL120)	2.01	0.17	0.13	★★★★★★★	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6	3.01	0.26	0.31	★★★★★★★↓	★★★★★★★
6 Solar Reflective on 22 F Green 2250, #2 / 12 / 6 lowE, #3 (EA)	2.32	0.22	0.29	★★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 22 F Green 2250, #2 / 12Ar / 6 lowE, #3 (OL120)	2.02	0.19	0.27	★★★★★★★	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6	2.99	0.25	0.15	★★★★★★★↓	★★★★★★★↓
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12 / 6 lowE, #3(EA)	2.31	0.21	0.14	★★★★★★★↓	★★★★★★★
6 Solar Reflective on 58 EuroGrey 5840, #2 / 12Ar / 6 lowE, #3 (OL120)	2.01	0.16	0.13	★★★★★★★	★★★★★★★

**triple glazing**

5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.91	0.49	0.52	★★★★★	★★★★★★★
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.66	0.42	0.49	★★★★★★★↓	★★★★★★★
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.50	0.40	0.46	★★★★★★★	★★★★★★★
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (EA)	1.84	0.48	0.50	★★★★★★	★★★★★★★
5 lowE, #2 / 9Ar / 5 / 9Ar / 5 (OL120)	1.61	0.41	0.47	★★★★★★★↓	★★★★★★★
5 lowE, #2 / 9Ar / 5 lowE, #4 / 9Ar / 5 (OL120, EA)	1.44	0.39	0.45	★★★★★★★	★★★★★★★