

Comparisons of Different Greenhouse Covers

Comparison of different greenhouse covers	POLYDRESS® SolaWrap (8.5mm)	Rating	standard single layer PE-Greenhouse cover (7mil)	Rating	double layer inflated ETFE Films (5mil + 3.5mil)	Rating	standard double layer inflated PE-Greenhouse cover	Rating	PLEXIGLAS® Alltop SP double wall panel (630mil)	Rating	Polycarbonate double wall panel (8mm)	Rating	horticulture glass cover, float glass (4mm)	Rating
1 Labour time for roofing the greenhouse	very fast	5	fast	4	medium	3	medium	3	time consuming	2	time consuming	2	time consuming	2
2 Dependency on weather conditions during roofing the greenhouse	mostly not dependent on weather conditions	5	extremely dependent	1	extremely dependent	1	extremely dependent	1	highly dependent	2	highly dependent	2	medium/partially dependent	3
3 Possibility to fix partially broken parts of the roof	easily possible	4	almost impossible	1	almost impossible	1	almost impossible	1	easily possible	4	possible	3	possible	3
4 Cost for roofing	low	4	very low	5	very high	1	medium	3	very high	1	high	2	medium	3
5 Persistence/longevity of the material	very long	5	short	2	very long	5	short	2	very long	5	long	4	very long	5
6 Persistence against wind (wind load)	excellent	5	bad	2	medium	3	medium	3	good	4	good	4	good	4
7 Persistence against snow (snow load)	excellent	5	bad	2	good	4	bad	2	good	4	good	4	good	4
8 Persistence against hail	good	4	bad	2	medium	3	medium	3	good	4	medium	3	bad	2
9 Damage to culture in case of broken roofing	no damage to culture	5	major damage to culture	1	some damage to culture	3	major damage to culture	1	little damage to culture	4	some damage to culture	3	major damage to culture	1
10 Heat resistance/insulation	good R=1.7 (ft ² ·F·h)/BTU	4	very bad R=1.0 (ft ² ·F·h)/BTU	1	excellent R=1.9 (ft ² ·F·h)/BTU	5	good R=1.5 (ft ² ·F·h)/BTU	4	very good R=2.3 (ft ² ·F·h)/BTU	5	good R=1.6 (ft ² ·F·h)/BTU	4	very bad R=1.0 (ft ² ·F·h)/BTU	1
11 Light transmittance	high 83%	4	high 85%	4	high 80%	4	high 80%	4	very high 91%	5	medium 75%	3	very high 90%	5
12 Light diffusion	high approx. 60-70%	4	medium approx. 50%	3	low approx. 30%	2	medium approx. 50%	3	very low approx. <5%	1	medium approx. 40%	3	very low approx. <5%	1
13 Condensation characteristics	medium	3	medium	3	bad	2	medium	3	excellent	5	medium	3	good	4
14 Cost for recycling/waste disposal of material after use	low	4	low	4	high	2	medium	3	medium	3	high	2	high	2
15 Continuous energy consumption (double layer inflated)	none	5	none	5	high	1	high	1	none	5	none	5	none	5
16 Material recycling (after use)	good	4	good	4	difficult/only material recycling	1	good	4	good	4	bad	1	good	4
17 Flammability	flammable	1	flammable	1	V0 (UL94)	4	flammable	1	flammable	1	flammable	1	not flammable	5
18 Cost for insurance for the greenhouse	low	4	high	2	very high	2	high	2	high	2	high	2	high	2
Average Score	4.2		2.6		2.6		2.4		3.4		2.8		3.1	
	+		□		□		□		□		□		□	

The data given is based on literature, empirical measurement and our own experience in the field of greenhouse roofings

very poor/bad	-	1
poor	-	2
average	□	3
good	+	4
very good/excellent	++	5