



SUNSPHERE

Power Line Polycarbonate Warning Sphere

► Introduction

SUNSPHERE is constructed from two polycarbonate hemispheres that are connected to each other and to the elevated power line by aluminum fixing brackets.

The assembled product is designed to warn approaching aircraft of power lines hung between supporting towers. It provides a long term, more economical alternative to existing ABS and fiberglass products

► Features at a Glance

- Impact resistance
- Weather and UV resistant
- Wide service temperature range
- Light weight
- Easy to handle and install
- Flexible, formable, and machinable
- ISO 9001:2000 Certified Quality Assurance



► Typical Physical Properties

SUNSPHERE is manufactured from PALSUN. Therefore, its physical properties and fire ratings are identical to those of PALSUN which appear in the tables on this page..

Property	(Method ^a)	Conditions	Units	Value
Density	(D-792)		g/cm ³	1.2
Heat Deflection Temperature	(D-648)	Load: 1.82 MP	°C	130
Service Temperature Range			°C	-40 to +120
Coefficient of Linear Thermal Expansion	(D-696)		cm/cm °C	6.5 x 10 ⁻⁵
Thermal Conductivity	(C-177)		W/m K	0.21
Tensile Strength at Yield	(D-638)	10 mm/min	MPa	65
Tensile Strength at Break	(D-638)	10 mm/min	MPa	60
Elongation at Yield	(D-638)	10 mm/min	%	6
Elongation at Break	(D-638)	10 mm/min	%	>90
Tensile Modulus of Elasticity	(D-638)	10 mm/min	MPa	2,000
Flexural Strength	(D-790)	1.3 mm/min	MPa	100
Flexural Modulus	(D-790)	1.3 mm/min	MPa	2,600
Impact Falling Weight	(ISO 6603/1 E ₅₀)	3mm sheet	J	158
Rockwell Hardness	(D-785)		R Scale	125R
Light Transmission	(D-1003)	3mm clear sheet	%	89%
Haze	(D-1003)	3mm clear sheet	%	<0.5
Yellowness Index	(D-1003)	3mm clear sheet		<1

^a ASTM except where noted otherwise.

► Flammability

PALSUN	
Standard	Classification ^b
BS 476/7	Class 1Y
NSP 92501, 4	M1, M2
DIN 4102	B1, B2
CSE RF 2/75/A, CSE RF 3/77	Class 1
UL Classified	V2 (File e221255)
ASTM D-635	CC1
PALSUN FR	
Standard	Classification ^b
UL Classified	V0 (File e221255)
ASTM D-2863-87	L.O.I. = 30
AU 1530.3-1982	Ignitability Index = 9
	Spread of Flame Index = 8
	Heat Evolved Index = 10
	Smoke Developed Index = 8

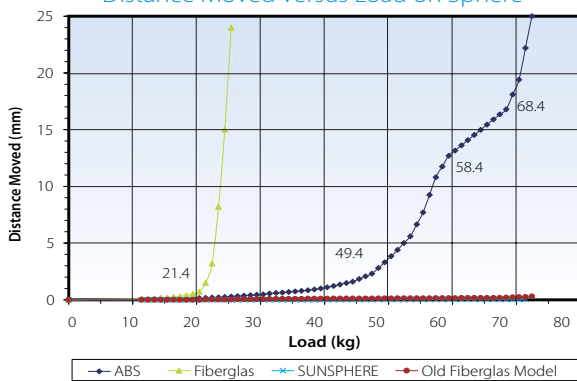
^b All the above depends on thickness.

► Colors

Any RAL number subject to minimum quantity.

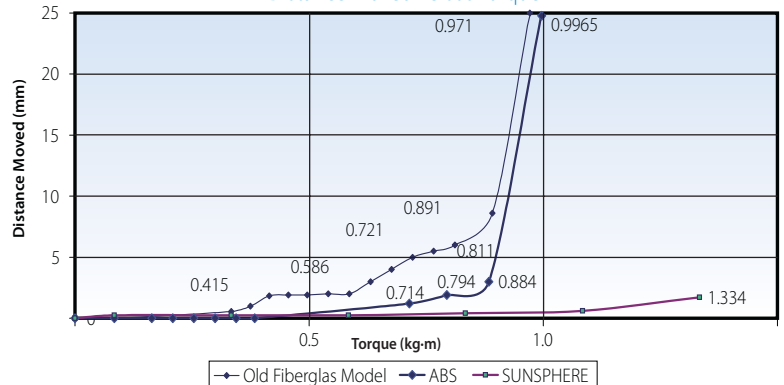
13 mm Diameter Electric Cable Sliding Test

Distance Moved versus Load on Sphere



13 mm Diameter Electric Cable Spinning Test

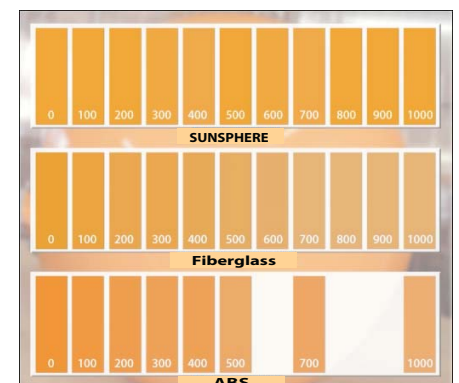
Distance Moved Versus Torque



Qualitative Comparison of SUNSPHERE with Fiberglass and ABS

Product	SUNSPHERE (Palram Polycarbonate)	Fiberglass	ABS
Property			
Weight	Light	Heavy	Heavy
UV Resistance	Excellent - 10 year warranty	Good	Problematic
Impact Resistance	Excellent	Poor	Poor
Light Transmission (opacity)	Very Good	Very Good	Very Good
Surface	Very Smooth	Smooth	Very Smooth
Service Temperature Range	Good	Excellent	Good
Color	Throuout	External	Throuout
RAL Designation	2008 (for Israel)	2008 (for Israel)	
Light Reflection	Very Good	Good	Fair

SUNSPHERE, Fiberglass and ABS Warning Sphere After Exposure to UV-B Radiation



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