

Radiation Shields

Excellent measurement accuracy – best in class
Tough and rugged protection





KEY BENEFITS

- Reduction in solar radiation errors - greater accuracy
- Unique wasp and bug deterrence
- Easily dismantlable double louver stack for cleaning
- Extra secure positive locking cable glands
- Proven toughness, U.V stability and salt spray resistance
- Wide range and choice of specification options

THE HOW

All MetSpec shields feature a unique double louvered profile design which gives better protection, keeping the interior drier and cleaner for longer. The second key element is the use of black surfaces to remove reflected solar radiation influxes away from the sensor tips.

THE WHY

No matter how careful you have been in your choice of sensors, the choice of a high specification shield is vital. This will help to ensure that you maintain measurement accuracy and protect your sensors from blowing precipitation, insect life and debris. Because these factors can seriously impact on the performance of even the most expensive and accurate sensors.

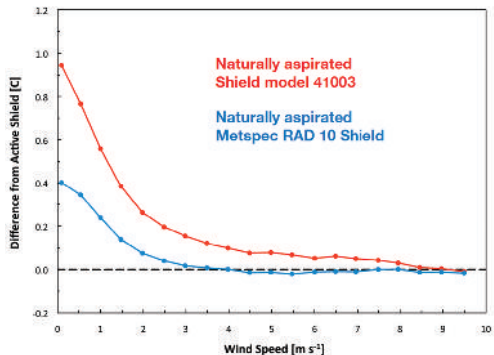
MATERIALS TECHNOLOGY

We ensure that only the latest and best material technologies are used in all our products. Our extensive experience in developing, testing and manufacturing, and an ongoing programme of research and development ensures that our products are unique and are always fit for purpose.

TEST INTERCOMPARISON

The data in the graph are averages that show the mean temperature difference as a function of wind speed. Temperature measurements from each passive shield were compared to temperature measurements from an active shield.

Trial period: September 5, 2013 to August 25, 2014.



Two Shields of each type were used in this test.

Datalogger: Campbell Scientific CR1000

Sensors: Campbell Scientific 109SS-I Thermistor Site installation: 3 meters above normally irrigated and cut grass. Location: Logan, UT USA.

OTHER TESTING

MetSpec Shields have also been subjected to testing for salt spray resistance and accelerated U.V. weathering, and have passed both tests. Results are available on request.

Choose from two types of Radiation Shields

SMALL RAD 06, 10 & 14 PLATE SHIELDS

Compact and rugged Shields which provide excellent measurement performance. *Greater than 50% reduction in measurement errors in tests, compared to industry standard*.

RAD 06, 10 & 14 plate Shields

- Small, compact and rugged
- Double louvred high impact U.V stable polycarbonate plastic louver plates
- Matt black undersides to reduce solar radiation influxes
- Gloss white aluminium arm featuring 'Surtec 650' pre-treatment
- Durable white polyester powder coating
- Stainless steel 'V' bolt, and securing nuts to fit a pole of between 25 - 51 mm in diameter.
- Fits onto both horizontal and vertical structures
- Fully RoHS compliant in conjunction with sensors

Probe compatibility

RAD 06:

Houses short thin probes from 5 - 12 mm in diameter with up to 94 mm of the probe inside the shield

RAD 10:

Houses probes 9 - 17 mm in diameter taking up 160 mm of the probe inside the shield

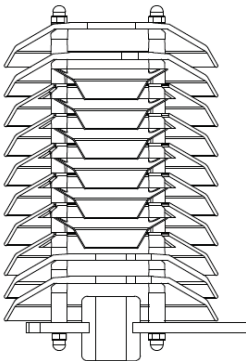
RAD 14:

Houses large probes 14 - 25 mm in diameter taking up 226 mm of the probe inside the shield

NOTE: other sizes of tensioning glands may be fitted as required.

DIMENSIONS AND WEIGHTS

	Overall diameter	Height	Height inc. bracket	Weight	Operating temperature
RAD 06	123mm	142mm	281mm	0.87kg	-55 - 65 C
RAD 10	123mm	208mm	347mm	1.01kg	-55 - 65 C
RAD 14	123mm	274mm	413mm	1.15kg	-55 - 65 C



Cross sectional view of RAD 10 Shield showing its unique double louvred profile.



Case studies

SOLVING THE ANNUAL WASP NEST PROBLEM

In North America during the summer months, a common problem is wasps building nests inside radiation Shields. Not only does this create risks for anyone nearby, but the heat that they generate renders measurements useless.

MetSpec Shields have been tested for several summers at a range of locations across the States. No sign has ever been found of wasps attempting to build inside them. A real problem solved - less downtime, less risk and less cost.



EXPOSED

The Icelandic Meteorological Office relies on an extensive network of automated stations. Almost all of them are at remote and very exposed locations.

The climate in Iceland is such that they have never been able to use traditional louvered Shelters in their network.

However they have now specified RAD 01 Shields for installations, replacements and new builds. Better proof of the durability and ruggedness of MetSpec Shields would be hard to find.

Offering the highest level of protection to sensors, and enabling a constant and reliable feed of temperature and humidity data.

RAD 01 & 02 LARGE SHIELDS

For the very best level of protection in severe environments. The preferred choice for marine installations and where blowing precipitation is likely.

RAD 01 & 02 Shields

- Large internal area: 100 mm diameter
- Double louvered high impact U.V stable polycarbonate plastic louver plates
- Gloss white aluminium arm featuring 'Surtec 650' pre-treatment
- Stainless steel 'V' bolt, and securing nuts to fit a pole of between 25 - 51 mm in diameter.
- Fits onto both horizontal and vertical structures
- Fully RoHS compliant in conjunction with sensors

Probe compatibility

RAD 01:

Houses probes from 5 - 12 mm in diameter with up to 120 mm of the probe inside the shield

RAD 02:

Houses larger probes 14 - 25 mm in diameter, taking up 222 mm of the probe inside the shield

NOTE: other sizes of tensioning glands may be fitted as required. An additional tensioning gland may be fitted for a second sensor.

DIMENSIONS AND WEIGHTS

	Overall diameter	Height	Height inc. bracket	Weight	Operating temperature
RAD 01	165mm	172mm	303mm	1.05kg	-55 - 65°C
RAD 02	165mm	274mm	405mm	1.34kg	-55 - 65°C

