

# Rigid Targets

## Permafect® Reference Reflectance Targets

### From prototype to proven performance

Leverage the advantages of Permafect diffuse reflectance coatings with our practical and scalable Rigid Targets.

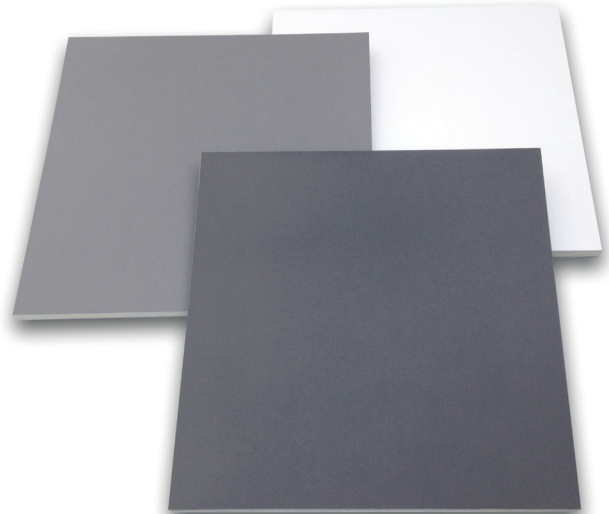
### Uniform spectral response and durable

Imaging sensor systems require greyscale reference reflectance targets to optimize their performance. The reflectance targets you use to test your spectral imaging system matter. Grey painted cards, fabrics, and paper may put your product development efforts at a disadvantage.

There's a better solution, Permafect greyscale targets. Permafect diffuse reflectance coatings maintain their appearance under a wide variety of lighting environments and have uniform spectral response. They are thermally and physically durable, thermally color stable, and UV light stable. Permafect has no gloss, no polarization and no fluorescence.

Permafect Rigid Targets are small and medium area, reference reflectance targets, on a rigid lightweight backing material. If you are early in the product development cycle and require a practical reference reflectance solution with all the benefits of Permafect, our Rigid Targets are right for you.

Rigid Targets are made with lightweight backing panels consisting of a solid polymer core sandwiched between two sheets of aluminum. The material design provides an economical, rigid, and lightweight target backing solution. Rigid Targets are 6 mm thick and are available in two standard sizes; 0.5 m x 0.5 m and 1.0 m x 1.0 m.



### No other options compare:

- Lightweight
- Durable
- Tailorable
- Uniform
- Easy to Clean

### Applications:

- Lidar
- Ground Truth
- Time of Flight
- Imager Calibration
- Sensor/Source Compensation



## Results you can trust

All Permafect targets include reflectance data. Choose the calibration package that's right for your application.

1. Single point spectral reflectance from 350 to 2400 nm.

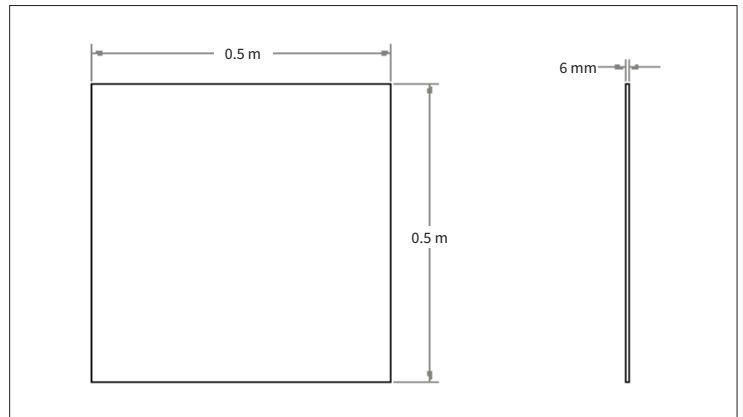
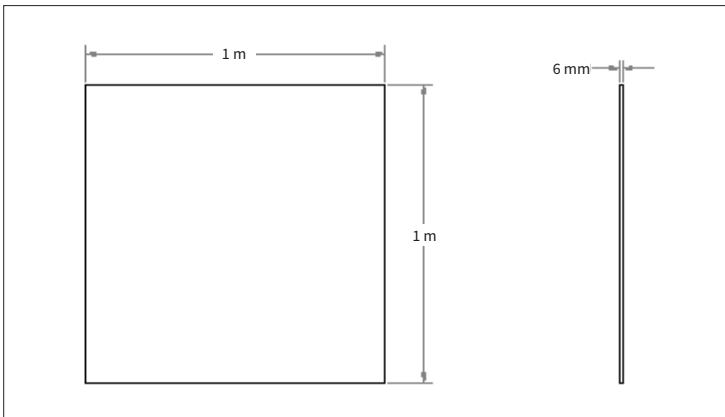
This calibration package includes a single center point reflectance calibration with data from 350 to 2400 nm. Your target will ship with a calibration certificate and a calibration data file on USB.

2. Average Spectral Reflectance from 350 to 2400 nm and 905 nm nine point reflectance map.

This calibration package includes a report of the average spectral reflectance from 350 to 2400 nm. The average reflectance is calculated from nine individual measurements collected in a grid across the target surface. This package includes a 905 nm reflectance uniformity map. Your target will ship with a calibration certificate, uniformity map, and a calibration data file on USB.

## Performance Specifications

Permafect-X (%)	5%	10%	18%	50%	80%	94%
Tolerance at 905 nm:	±2%	±2%	±2%	±2%	±2%	+3% / -0%
Variance from Nominal:	3% - 7%	8% - 12%	16% - 20%	48% - 52%	78% - 82%	94% - 97%
Uniformity:	±1%	±1%	±1%	±1.5%	±1%	±1%



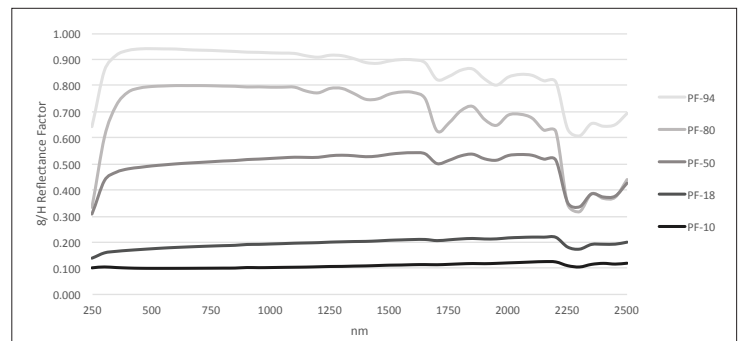
Examples of Rigid Targets

### Target Weights

Size	Weight
0.5 m x 0.5 m	2.0 kg
1.0 m x 1.0 m	8.0 kg

### What's in the box?

- Permafect Rigid Target in one of six reflectance levels
- Signed calibration report with reflectance data in 50 nm intervals and optional 905 nm uniformity map (see ordering information)
- USB with spectral reflectance data file and PDF report



Typical 8/H Reflectance Factors of Permafect

## Rigid Targets Ordering Information

### Rigid Targets with single point spectral reflectance calibration from 350 to 2400 nm.

MODEL	DESCRIPTION	ORDER NUMBER
PFT-05-05M-RT-TC	Permaflect 5%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01913-005
PFT-10-05M-RT-TC	Permaflect 10%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01913-010
PFT-18-05M-RT-TC	Permaflect 18%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01913-018
PFT-50-05M-RT-TC	Permaflect 50%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01913-050
PFT-80-05M-RT-TC	Permaflect 80%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01913-080
PFT-94-05M-RT-TC	Permaflect 94%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01913-095
PFT-05-10M-RT-TC	Permaflect 5%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01914-005
PFT-10-10M-RT-TC	Permaflect 10%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01914-010
PFT-18-10M-RT-TC	Permaflect 18%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01914-018
PFT-50-10M-RT-TC	Permaflect 50%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01914-050
PFT-80-10M-RT-TC	Permaflect 80%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01914-080
PFT-94-10M-RT-TC	Permaflect 94%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; single point calibration from 350 to 2400 nm	AA-01914-095

### Rigid Targets with Average Spectral Reflectance from 350 to 2400 nm and 905 nm nine point reflectance map.

MODEL	DESCRIPTION	ORDER NUMBER
PFT-05-05M-RT-TCM	Permaflect 5%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01915-005
PFT-10-05M-RT-TCM	Permaflect 10%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01915-010
PFT-18-05M-RT-TCM	Permaflect 18%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01915-018
PFT-50-05M-RT-TCM	Permaflect 50%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01915-050
PFT-80-05M-RT-TCM	Permaflect 80%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01915-080
PFT-94-05M-RT-TCM	Permaflect 94%, Rigid Target; 0.5 m x 0.5 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01915-095
PFT-05-10M-RT-TCM	Permaflect 5%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01916-005
PFT-10-10M-RT-TCM	Permaflect 10%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01916-010
PFT-18-10M-RT-TCM	Permaflect 18%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01916-018
PFT-50-10M-RT-TCM	Permaflect 50%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01916-050
PFT-80-10M-RT-TCM	Permaflect 80%, Rigid Target; 1.0 m x 1.0 m, 6 mm thick, lightweight Al and polymer backing, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01916-080
PFT-94-10M-RT-TCM	Permaflect 94%, Rigid Target; 1.0 m x 1.0 m, thin, light Al backing, no mounting, without mounting; 905 nm nine point mapping and calibration from 350 to 2400 nm	AA-01916-095



## Permaflect Targets Carry and Stow Cases

- Cases carry one to three targets
  - Protects surface and corners from being scratched and dinged
    - Hard sided case with reinforced corners
    - Foam lined fitted inserts
    - Can be used to stack targets in constrained spaces
- Grab and go
  - Recessed handles
- Grab and drag larger targets
  - EZ Haul wheels options
- Easy access
  - Hinged cases
- Secure
  - Recessed latched
- No additional packaging needed
  - Can be used for shipments, storage and transport

## Carry and Stow Case Ordering Information

Model	Description	Order Number
PFT-05M-Carry Case	Carry case for Permaflect 0.5 m x 0.5 m Targets Main unit size: (L x W x H) -> 0.61 m x 0.61 m x 0.20 m No castors or wheels. Weight: 9.5 kg	AA-01523-050
PFT-1M-Carry Case Wheeled	Carry case for Permaflect 1 m x 1 m Targets Main unit size: (L x W x H) -> 1.12 m x 1.12 m x 0.20 m With corner wheel installed. Weight: 25 kg	AA-01524-100
PFT-15M-Carry Case Wheeled	Carry case for Permaflect 1.5 m x 1.5 m Targets Main unit size: (L x W x H) -> 1.63 m x 1.63 m x 0.20 m With corner wheel installed. Weight: 30 kg	AA-01524-150
PFT-15M-Target Mount and Carriage	Target mount for Permaflect 1.5 m x 1.5 m Targets; connection straps and blocks for connecting two carriages together. All hardware and tools provided	AA-01525-150