

## 10. TRANSMISSION RATES:

Below are the infrared transmission rates for the CAP polymer-based viewing panes. You must insert the data into the thermographer's label that corresponds with the IRISS product that you are using.

### IR Viewing Pane Transmission Rates

**CAP Range:** MWIR = 0.50 LWIR = 0.57

The IR wavelengths used for the transmission rate calculations are MWIR = 4 Microns and LWIR = 9 Microns.

NOTE: IR cameras vary slightly depending upon make/model. Confirm your camera's transmission rate prior to installation completion.

## 11. FIELD OF VIEW:

Below is a field of view matrix showing what can be seen through the IRISS CAP range of infrared viewing panes. This matrix is a guide only and is based on an IR camera that has a standard 24 degree lens with a lens diameter of 2 inches with a maximum viewing angle of 30 degrees in the horizontal and vertical. All dimensions are in inches and there are two charts: Chart 1 is CAP viewing grill only and Chart 2 shows the CAP-V our combination visual and IR viewing window (this uses a smaller IR viewing window than the CAP range).

Chart 1: CAP Range

IR Target Distance	CAP-6 CAP-C-6	CAP-12 CAP-C-12	CAP-24 CAP-C-24
8 inches	Hor= 18.0 Ver= 14.7	Hor= 35.1 Ver= 18.6	Hor= 70.8 Ver= 20.4
12 Inches	Hor= 28.2 Ver= 18.3	Hor= 39.9 Ver= 22.2	Hor= 75.6 Ver= 24.0
18 Inches	Hor= 35.2 Ver= 23.55	Hor= 46.9 Ver= 27.45	Hor= 82.6 Ver= 26.25
24 Inches	Hor= 41.7 Ver= 28.8	Hor= 89.1 Ver= 32.7	Hor= 89.1 Ver= 34.5

Chart 2: CAP-V Range

IR Target Distance	CAP-V-6 CAP-VC-6 CAP-VCH-6	CAP-V-12 CAP-VC-12 CAP-VCH-12	CAP-V-24 CAP-VC-24 CAP-VCH-24
8 inches	Hor= 18.0 Ver= 10.8	Hor= 35.1 Ver= 10.8	Hor= 70.8 Ver= 10.8
12 Inches	Hor= 28.2 Ver= 14.4	Hor= 39.9 Ver= 14.4	Hor= 75.6 Ver= 14.4
18 Inches	Hor= 35.2 Ver= 19.7	Hor= 46.9 Ver= 19.7	Hor= 82.6 Ver= 19.7
24 Inches	Hor= 41.7 Ver= 24.9	Hor= 53.4 Ver= 24.9	Hor= 89.1 Ver= 24.9

NOTE: more information on field of view is available at:  
[http://www.iriss.com/online\\_tools.php](http://www.iriss.com/online_tools.php)

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## Keep It Closed!

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# IRISS®

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## CAP Series Infrared Window INSTALLATION INSTRUCTIONS



The following instructions are for the installation of the IRISS CAP range of infrared inspection viewing panes.

These instructions should be read and understood completely before starting the installation of the infrared viewing pane assembly.

All the tools, items and accessories shown in these instructions are available directly from IRISS, Inc. Further information or assistance is available at:

Web: [www.iriss.com](http://www.iriss.com)  
Email: [support@iriss.com](mailto:support@iriss.com)  
US toll free: (877) 704-7477  
International: +1 (941) 907-9128

## 1. GETTING STARTED:

Before starting you should ensure that you have all the tools and equipment required to successfully complete the installation. The holes can be cut using a nibbler or angle grinder.

### Tool requirements:

- Nibbler / angle grinder
- Electric drill
- 7 mm (9/32") drill bit
- Center punch
- De-burring tool / file
- 7/16" Socket and wrench set
- Anti-corrosion metal treatment

### PPE requirements:

- Safety glasses
- Working gloves (recommended)
- Comply with all site PPE requirements



FIG 1

All tools and equipment required for installation of IRISS infrared inspection panes are readily available from retail or wholesale outlets. For more information email: [support@iriss.com](mailto:support@iriss.com)

## 2. CHECK THE CONTENTS:

Verify your shipment contains the following:

- 1 x complete IRISS CAP unit
- 1 x fitting template
- 1 x IR target ID label
- *Note: Fitting hardware comes supplied with each unit*

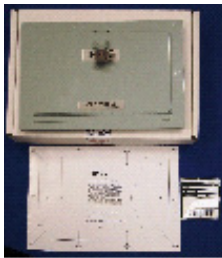


FIG 2

## 3. FITTING THE CUTTING TEMPLATE:

Once you have selected the installation location, you will need to apply the supplied cutting template on the side of the panel where the window is to be fitted. (Fig 3)

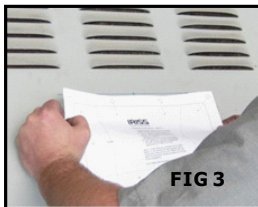


FIG 3

NOTE: For assistance with determining installation location for IR viewing panes and retrieval of electronic copies of all cutting templates please go to: [http://www.iriss.com/iriss\\_technical\\_manuals.php#fragment-3](http://www.iriss.com/iriss_technical_manuals.php#fragment-3)

## 4. CENTER PUNCH HOLES:

Using a center punch mark all the fixing holes labelled A.



FIG 4

## 5. DRILL FIXING HOLES:

Use a 7 mm (9/32") drill bit to drill the center punched holes from step 4 and if using a nibbler, drill a pilot hole along line B. (Fig 5)

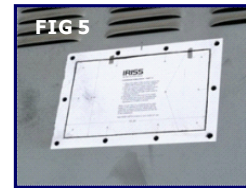


FIG 5

IRISS UNIT	FIXING HOLES
CAP-6	EIGHT
CAP-12	TEN
CAP-24	FOURTEEN

## 6. HOLE CUT-OUT SIZES:

The table below details the hole size required for each of the IRISS CAP range of infrared inspection panes.

IRISS UNIT	HOLE SIZE mm	HOLE SIZE inches
CAP-6	177 x 119	6.96 x 4.7
CAP-12	262 x 164	10.30 x 6.44
CAP-24	568 x 176	22.36 x 6.92

## 7. CUTTING IN WINDOWS:

Cut the correct size hole using your chosen method (nibbler, grinder, etc.). Fig 6 shows hole being cut along line B using an angle grinder utilizing a metal cutting disc.

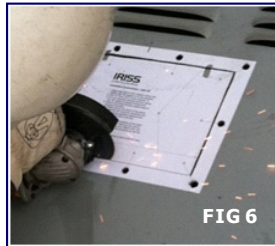


FIG 6

Once you have cut the hole, de-burr the rough edges and peel away the remaining portion of the cutting template. (Fig 7)

Finally, treat all bare metal surfaces with a protective anti-corrosion coating (paint, sealer, etc...). This will ensure that the CAP infrared viewing window seals are not effected by long term corrosion and protect the integrity of the panel.



FIG 7

## 8. FITTING YOUR IRISS IR WINDOW:

Once the hole cutting has been completed as described in section 7, your IRISS infrared viewing pane can be fitted.

Place the body of the unit complete with seals on the front of the panel.

Fit hardware (ensuring you fit the star washers on each stud) onto the studs as shown in Fig 8.

Tighten hardware to 23 nm (17.0 Lb/ft) using a 7/16" socket and wrench set.



FIG 8

## 9. FITTING YOUR IRISS IR WINDOW LABELS:

Ensuring that your IR viewing pane is correctly labelled is essential... without the correct information it will not be used to its full effect. Each IRISS CAP unit is supplied with a label for the use of the thermographer (Fig 9). This label allows the thermographer to note the number of targets, emissivity of the targets, transmission rates of the viewing pane with different infrared cameras, etc.



FIG 10

IRISS Infrared Window ID TAG	
Location:	<input type="text"/>
IR Window No:	<input type="text"/>
Transmission:	<input type="checkbox"/> SW <input type="checkbox"/> LW
NOTES	<input type="text"/>
Barcode Area	<input type="text"/>

FIG 9

There may be multiple targets through the IR viewing window which need to be recorded on the thermographers label. The most common method of locating the targets required is by using the clock face method, i.e. bus bar connections at 4 o'clock, etc. This data can all be placed on the label. This label also has a pre-printed bar code system to allow for unique identification of each CAP infrared window.

*Your IRISS CAP Infrared Viewing Pane is now ready for use.*