

## Comparison of Common Flat Roof Moisture Tests

	<b>Infrared Flat Roof Moisture Survey</b>		<b>Nuclear Flat Roof Moisture Survey</b>	<b>Capacitance Flat Roof Moisture Survey</b>
	<b>Long Wave Imager</b>	<b>Short Wave Imager</b>		
<b>PROPERTY SENSED</b>	Temperature differential	Temperature differential	Relative quantity of Hydrogen	Relative current flow
<b>VERIFICATION</b>	Invasive necessary	Invasive necessary	Invasive necessary	Invasive necessary
<b>COVERAGE AREA</b>	100%	100%	varies depending upon grid size, normally 1% - 4%	varies depending upon grid size, normally 1% - 4%
<b>ROOF MEMBRANE TYPE</b>				
Built-up - smooth	Yes	Yes	Yes	Yes
Built-up - aggregate	Yes	Yes	Yes	Yes
Modified Bitumen smooth	No	Yes	Yes	Yes
Modified Bitumen aggregate	Yes	Yes	Yes	Yes
Single-ply - smooth	No	Yes	Yes	Yes, EXCEPT butyl rubber or EPDM
Single-ply - ballast	No	No	Yes, requires preparation	Yes, EXCEPT butyl rubber or EPDM
Spray Applied Foam (SPUF)	No	Yes	Yes, requires preparation	Limited

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<b>REQUIRED ROOF CONDITIONS</b>				
Roof Surface	Dry, free of standing water, ice or snow	Dry, free of standing water, ice or snow	Dry, free of standing water, ice or snow	Dry, free of standing water, ice or snow
Weather	Sunny, no precipitation day or evening of the Survey	Sunny, no precipitation day or evening of the Survey	No precipitation the Survey (protect the gauge)	No precipitation the Survey (protect the gauge)
Winds	<15 mph	<15 mph	within safe range for personnel	within safe range for personnel
Temperature	Daytime highs above 40°F	Daytime highs above 40°F	within safe range for personnel	within safe range for personnel
Time of Day	Post Sunset	Post Sunset	Daytime	Daytime
<b>APPLICABLE STANDARDS</b>	ASTM, Infraspction Institute	ASTM, Infraspction Institute	ASTM	ASTM
<b>LIMITATIONS</b>	Not recommended for ballasted or reflective roof surfaces	Not recommended for ballasted roofs	Collects data from a very small percentage of the roof, can be labor intensive	Collects data from a very small percentage of the roof, false positive or negative results possible
<b>BENEFITS</b>	100% of roof covered, usually most cost efficient	100% of roof covered, usually most cost efficient	Best for ballasted roofs, less weather restrictions	Less weather restrictions