



Alla c.a. del Consiglio
dell'Ordine degli Architetti P.P. e C.
della Provincia di Chieti

Oggetto: Noleggio di termocamera con operatore qualificato.

In riferimento alla vostra richiesta si trasmette la nostra migliore offerta per il noleggio di termocamera (FLIR B620, serial n. 404002122) con operatore qualificato (certificato livello 2 ai sensi della norma ISO 9712 ex EN 473 nel settore edile).

L'importo del noleggio con operatore è pari a **€200,00** (escluso IVA 22%) per le prime due ore e **80,00 €** (escluso IVA 22%) per ogni ora aggiuntiva.

All'importo bisogna aggiungere le spese di utilizzo dell'automobile per il raggiungimento del luogo del sopralluogo pari a 0,37 € per ogni km (a partire da Chieti).

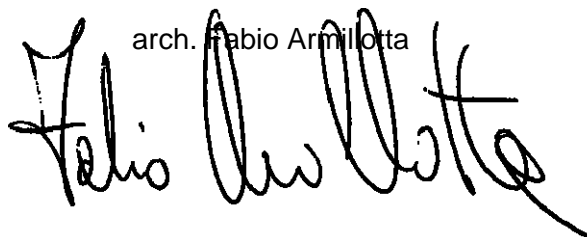
Alla fine del sopralluogo verranno forniti:

- i termogrammi in formato jpg;
- le fotografie (scattate dallo stesso istante e dallo stesso punto del termogramma) in formato jpg;
- i valori di temperatura e umidità esterni e di ogni ambiente interno rilevato.

Il costo del noleggio verrà corrisposto al termine dell'indagine. La fattura verrà spedita per mail il giorno seguente.

Si precisa che nella presente offerta non è previsto alcun tipo di report.

Pescara, 16 maggio 2014

arch. Fabio Armillotta




Esempio della documentazione fornita al termine del rilievo termografico

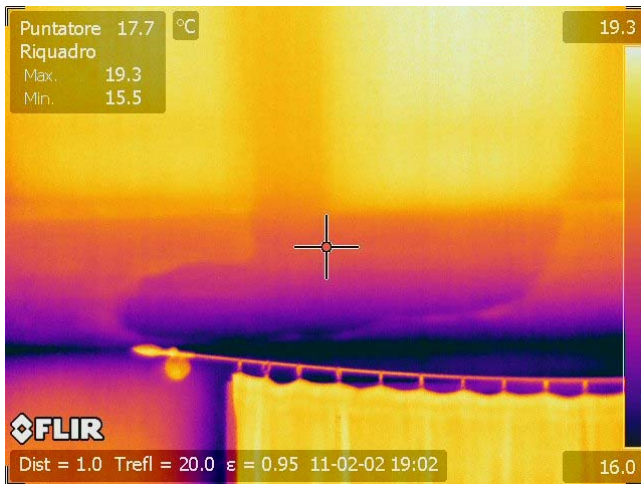


immagine 1

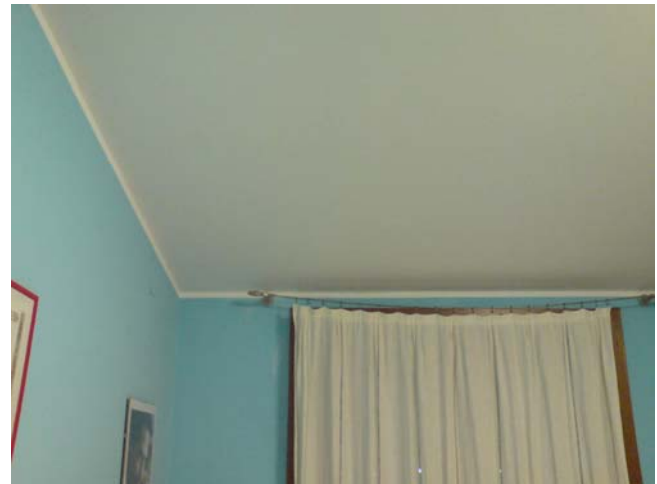


immagine 2



Immagine 3

- immagine 1: termogramma
- immagine 2: fotografia
- Immagine 3: lettura della temperatura e umidità relativa

Su ogni termogramma sono riportati:

- data e orario;
- temperatura riflessa (pari alla temperatura ambientale);
- valore di emissività del materiale ricavato dalle tabelle dell'emissività.

Scheda tecnica della termo camera FLIR B620

Imaging Performance	
Thermal	
Field of view/min focus distance	24° x 18° / 0.3 m (with standard lens)
Spatial resolution (IFOV)	0.65 mrad (with standard lens)
Thermal sensitivity @ 30°C	<0.065°C
Electronic zoom / pan function	1 - 2 x continuous, including pan function
Image Frequency	30 Hz (non-interlaced)
Focus	Auto, electric and manual
IR Lens	24° plus optional interchangeable FLIR lenses
Detector type	Focal plane array (FPA) uncooled microbolometer; 640 x 480 pixels
Spectral range	7.5 to 13 µm
IR Resolution	640 x 480 pixels
Visual	
Built-in digital video	3.2 Mpixel, full color / built-in Target Illuminator / auto focus
Image Presentation	
Image Fusion	Picture-in-Picture: move, resize, and reshape IR image inside visible light images. Thermal Fusion: Merging of visual and infrared image (interval, above/below).
Reference image	Show live IR image and reference image on screen for easy troubleshooting.
Viewfinder	Built-in, tiltable, high-resolution color viewfinder (800 x 600 pixels)
Built-in display	Built-in 5.6" LCD (1024 x 600 pixels)
Video output	RS170 EIA/NTSC or CCIR/PAL composite video, USB
Measurement	
Object temperature ranges	-40°C to +120°C
Accuracy	2°C or 2% of reading
Measurement analysis	3 spotmeters, 3 areas; auto hot/cold detection, Isotherms (above, below, interval), Delta T, Line Profile, Reference temperature function
Menu controls	Palettes, load custom palettes, auto adjust (manual/continuous/based on histogram equalization), on screen live and reference image, image gallery, programmable storage, user profiles, programmable buttons
Alarm functions	Automatic alarm on any selected measurement function, audible/visible alarm above/below, humidity (includes dew point), insulation
Emissivity correction	Variable from 0.01 to 1.0 or select from listings in pre-defined material list
Measurement features	Automatic corrections based on user input for reflected ambient temperature, distance, relative humidity, atmospheric transmission, and external optics
Optics transmission correction	Automatic, based on signals from internal sensors
Image Storage	
Type	Removable SD-card (1GB)
Image storage modes	Single image, simultaneous storage of IR and visual images
Periodic image storage	Every 10 seconds up to 24 hours
File format - THERMAL	Standard JPEG; 14 bit thermal measurement data included
File format - VISUAL	Standard JPEG inked with corresponding thermal image
Voice annotation of images	60 sec. of digital voice "clip" stored together with the image wired headset
Text annotation of images	Predefined by user and stored with image
Image marker	Markers on visual image
Video Streaming	
Non radiometric IR-video streaming	MPEG 4 streaming to PC using USB or WLAN, with optional Wireless remote control
Laser LocatIR™	
Classification type	Class 2, Semiconductor AlGaInP Diode Laser: 1 mW/635 nm (red)
Laser	Laser pointer activated by dedicated button
Power Source	
Battery type	Li-Ion, rechargeable, field-replaceable
Battery operating time	>3 hours at 25°C typical use
Charging system	In camera (AC adapter or 12V from car) or 2 bay intelligent charger or 12V from car with optional DC 12V connection cable
External power operation	AC adapter 90-260 VAC, 50/60Hz or 12V from car (cable with standard plug optional)
Power saving	Automatic shutdown and sleep mode (user-selectable)
Environmental	
Operating temperature range	-15° C to +50° C
Storage temperature range	-40° C to +70° C
Humidity (operating and storage)	10% to 95%, IEC 68-2-30
Encapsulation	IP 54 IEC 529
Shock	Operational: 25G, IEC 68-2-30
Vibration	Operational: 2G, IEC 68-2-6
Physical Characteristics	
Weight	1.8 kg (incl. lens and battery)
Size (L x W x H)	324 X 144 X 147mm (incl. standard lens)
Tripod mounting	1/4"- 20