

## **Borgo Castello di Postignano, Building work specifications**

The restoration and renovation of the borgo Castello di Postignano were carried out in compliance with norms and regulations issued by the relevant authorities, including the Ministry of Culture and Heritage.

The main works concerned are:

### **Seismic structural reinforcement**

The entire village underwent major works to improve seismic safety, in accordance with the strict technical rules applied in the Umbria region. Great attention was paid to reconcile the maximum seismic safety with the total respect and appreciation for the historical and architectural features of the village.

### **Characteristics of the materials used**

The materials used are in accordance with applicable laws; furthermore, according to the prescriptions given by the Superintendence for the Architectural Heritage, typical materials of local origin produced using traditional methods were employed; specifically, hand made terracotta tiles floors baked in wood-burning ovens, including recovered antique tiles, floors made of oak planks, recovery and restoration of original ancient doors, recovery and restoration of portals, road paving with cobbles and paving stone.

### **Thermal insulation**

All of the village units are fitted with window frames with double glazing and air chamber, the roofs are insulated from heat and cold with 5 cm thick thermal insulation panels. Insulation interspaces were inserted in the rooms in contact with the rock face, on the ground level the floors are raised from the ground, which has been waterproofed, and they were insulated with a ventilated crawl space and an upper slab of reinforced concrete.

### **Soundproofing**

To avoid the transmission of noise and vibration between floors, each floor is provided with a sound insulation panel.

### **Heating**

In each housing unit heating is produced by an independent boiler with individual meter. The heating is provided by a serpentine subfloor system, integrated by radiators in the bathrooms and in other spaces.

### **Water and sanitary system**

The water-sanitary system was installed in accordance with the latest regulations. Units are fitted with individual meters.

### **Electrical system - lifesaver**

Each unit is provided with RCDs lifesaving device.

### **Fire safety**

Five hydrants are installed along the streets of the village, in addition to the requirements of current fire regulations.

### **Accessibility**

A lift starts from the road below the village, next to the car park, and reaches the main street of the village, up to the reception and the restaurant, with an intermediate stop at 11 meters; the elevator has a capacity of 1,000 kg and room for 13 people. A second lift is under construction.

### **Infrastructure**

**Gas:** The village is served by 10,000 cubic meters liquid gas tank, which supplies kitchens, heating and domestic hot water production in individual apartments, with separate meters;

**Drinking water:** the apartments are supplied with drinking water provided by the network of the Municipality of Sellano;

**Sewers:** internal drainage system to the village is connected to the municipal main sewer, downstream of the village;

**Rainwater harvesting:** rainwater is collected from roofs through aluminum gutters and downspouts; and from the streets by cast iron pans; rainwater and sewage are collected in separate networks.

**Electricity:** the electric current is 220 v, the apartments are fitted with individual meters;

**TV, Internet and telephone:** the village is connected to the satellite network, the signal is distributed to individual apartments via fiberoptics cabling;

**Lighting:** the village streets are illuminated by cantilever streetlights and street lamps on poles.

### **Bathrooms ventilation**

The majority of the bathrooms are ventilated through windows; bathrooms without windows are ventilated by means of extractors and ventilation channels which terminate on the roof pitches, protected from bad weather.

### **Fireplaces ventilation**

The removal of the fumes is through stainless steel pipes ending on the roof pitches, protected by the chimneys; aeration (combustion air intake) is performed via an underfloor pipe which connects the base of the chimney to the outside.

### **Kitchens ventilation**

Fumes removal is through a pipe that ends on the roof pitches, protected by the chimneys; the ventilation with the outside is realised through holes in the walls, protected by grids.