

THE CONCLAVE STOVES AND THE “FUMATE”

The results of the ballots are, as is traditional, made visible by the colour of the smoke that emits from the chimney installed on the roof of the Sistine chapel: black smoke signals that a two-thirds majority has not been reached; white smoke signals the election of a new Pope.

The smoke is produced from burning the ballots and personal notes in a stove that was used for the first time during the Conclave of 1939. The cast-iron stove, which is a cylindrical form tapering off to a height of about a meter having a central diameter of about half a meter, has a lower compartment to light the pilot with a manual valve to regulate the draught and an upper compartment for the documents to be burned.

The following dates are engraved on the top of the stove (year/month):

1939/III Conclave that elected Pope Pius XII

1958/X Conclave that elected Pope John XXIII

1963/VI Conclave that elected Pope Paul VI

1978/VIII Conclave that elected Pope John Paul I

1978/X Conclave that elected Pope John Paul II

2005/IV Conclave that elected Pope Benedict XVI

In 2005, for the first time, a second stove was also used, which is also being used in the current Conclave that is taking place. This modern apparatus, has a smoke-producing device to make the “fumata” more visible.

When the ballots are burned in the older stove, an electronic device on the modern stove activates a cartridge holding five charges of a chemical mixture that are loaded one after the other and that last around seven minutes.

The **black smoke** is produced by a mixture of potassium perchlorate, anthracene, and sulphur.

The **white smoke** is a mixture of potassium chlorate, lactose, and a pine resin (also known as Greek pitch).

Each of the five charges is about 25x15x7cm.

The exhaust pipes of the cast-iron stove and the modern apparatus join in one pipe that, exiting the Sistine Chapel, connects to the chimney atop the roof of the Chapel and is visible from St. Peter's Square. To improve the draught, the pipe is pre-heated through an electric current and it also has a fan that can be activated if needed.