



Evacuation Slides

Why in News?

Recently after a threat of a bomb was reported on a **Varanasi-bound Indigo flight** at the **Indira Gandhi International Airport** in Delhi, all 176 passengers on the flight were efficiently evacuated using 'evacuation slides'.

- A search of the aeroplane found that the threat was a hoax.

Key Points

- An evacuation slide is an inflatable slide which allows passengers to safely exit the flight during an emergency, especially when the flight door is high above the ground.
- There are four types of evacuation slides:
 - **Inflatable slide:** The inflatable slide helps passengers descend to the ground from an aircraft exit door. In case they cannot use the doors, they can try to reach either of the aircraft wings. From there, they can use the slide to reach the ground.
 - **Inflatable raft:** It does the same job as the slide, but it can also be used as a life raft in case the aircraft has to land on water.
 - **Inflatable exit ramp:** The inflatable exit ramp is installed to help passengers move from certain overwing exits (or aircraft emergency exits) to the wings, if that path looks better for reaching the ground.
 - **Inflatable exit ramp/slide:** The inflatable exit ramp/slide is there to assist in descending from an overwing exit or aeroplane wing to the ground. It is a combination ramp and wing-to-ground device.
- These are typically made from **carbon fibres** and a **nylon material coated with urethane for fire resistance**. Strong fibres are used to build these slides so that passengers are not able to tear them while descending.
- Slides are generally packed and installed within a cabin door or into an external fuselage compartment.
- They are inflated with the help of **high-pressure gas** [carbon dioxide](#) or [nitrogen gas](#) containers and ambient air through suction machines.
- **Protocols for deploying evacuation slides:**
 - According to the [European Union Aviation Safety Agency \(EUASA\)](#), evacuation slides must be automatically deployed when the distance between the ground and the flight exit door is six feet or more.
 - The inflation time for the slide should be between six and 10 seconds, depending on its location.
 - It must be able to withstand temperatures as low as -40 degrees Celsius and as high as 71 degrees Celsius, as well as sustain rainfall of up to one inch per hour and winds up to 46 km/hr coming from 45-degree angles around the airplane, as per the US Federal Aviation Administration guidelines.

