Step Inside the Spacesuit

Source: *www.foxnews.com*

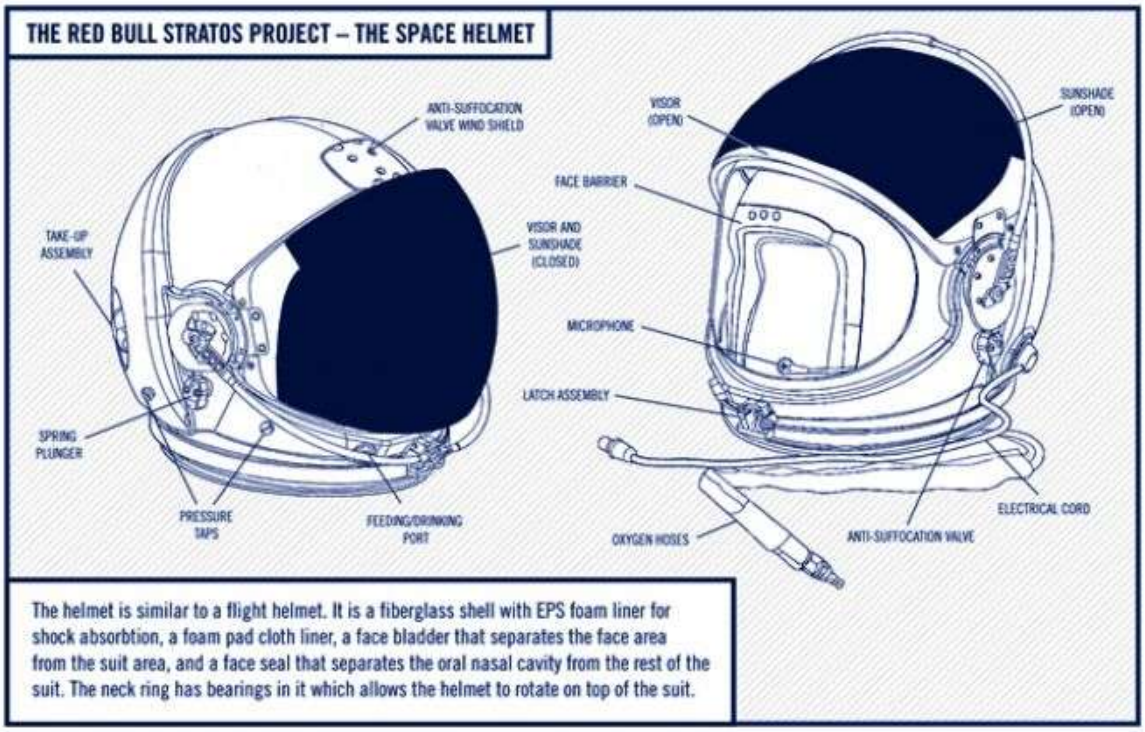
Skydiving is dangerous. Skydiving from a plane in outer space can kill you. So to survive his 23-mile plunge from the edge of space, Felix Baumgartner will depend on a unique new spacesuit.

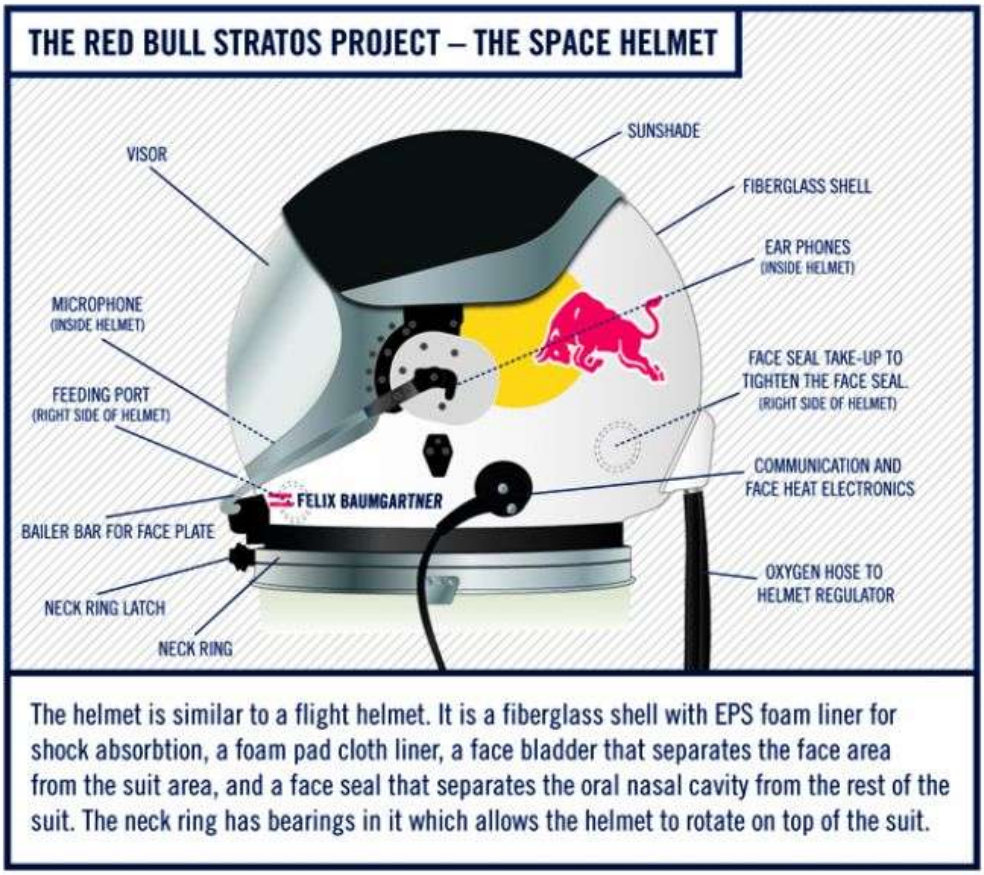
This next-generation gear was manufactured by Massachusetts-based David Clark Company Incorporated, which has pioneered air and space crew protective equipment since 1941, including launch entry suits for Space Shuttle astronauts and the iconic suit that Colonel Joe Kittinger wore on his historic Excelsior III jump in 1960.

Skydivers are trained to use their bodies to control freefall, using subtle midair positioning adjustments to significantly affect flight. Control is especially critical at high altitude, where rapid spinning is a potentially lethal possibility. The pressurized suit makes some physical adjustments difficult, and others impossible.

Felix's hands must be enclosed in pressurized gloves. In his full-pressure suit, Felix will find it more difficult not only to see critical components of his equipment – like parachute handles or tangled lines – but even to feel them.

The helmet that protects Felix's head also restricts his vision, a challenge that can be exacerbated if the atmospheric conditions, or perspiration, cause fogging or icing. If Felix can't see, he won't be able to launch the jump.





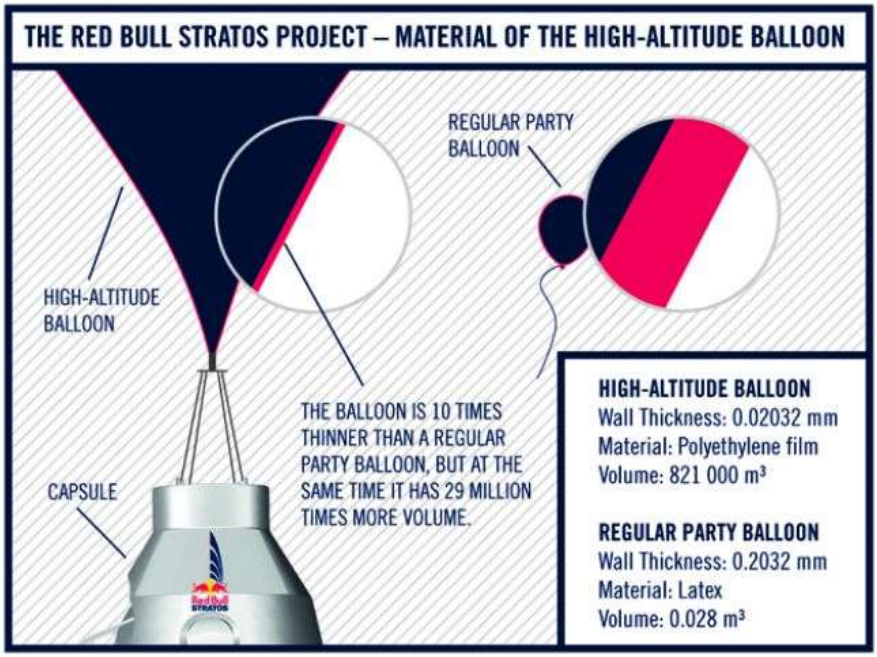
Mike Todd, the Red Bull Stratos Life Support Engineer, describes Felix's PPA as "an artificial atmosphere." The suit's exterior is made of a material that is both fire-retardant and an insulator against extreme cold.

Inside the suit, the “bladder” (which will be filled with gases to provide pressurization before Felix exits the capsule), is composed of a non-porous material surrounded by link netting. When the bladder is inflated, it will provide pressure at 3.5 pounds per square inch. An integrated control valve, the “brains” of the suit, maintains pressure automatically at various altitudes.

Once Baumgartner depressurizes the vessel and opens the door to step off, his full-pressure suit and helmet – what engineers call a “pilot protective assembly,” or PPA – will be his only life-support system until he reaches the safety of the lower atmosphere.

The full-pressure suit and helmet will serve as Felix Baumgartner’s sole life-support system when he steps off his capsule to attempt a record-breaking freefall from the edge of space.

Once at a low enough level, Baumgartner will parachute back down to the ground.



THE RED BULL STRATOS PROJECT – PRESSURE SUIT

- The suit protects Felix from expected temperatures of -70°F (-56.6°C).
- The Pressure Suit was designed for life support during freefall.
- Emergency oxygen cylinders are integrated into the parachute pack tray, supplying 20 minutes of breathing oxygen.
- A GPS transponder is integrated to broadcast Felix's exact location to the ground crew.
- In all, about 24 months have been devoted to development and testing of the suit.

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