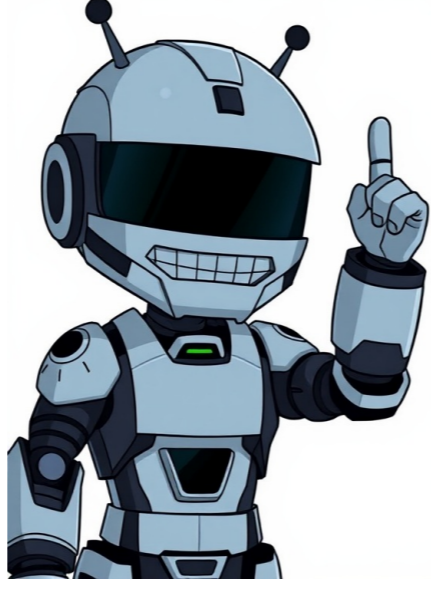


I'm not a robot

































Lift Slab Construction: A Method of Building Concrete Structures ===== Lift slab construction is a technique used in building concrete structures by casting the floor or roof slab on top of the previous slab and then raising it with hydraulic jacks. This method allows for most of the work to be done at ground level, eliminating the need to form floors in place. The use of monolithic concrete slabs makes lift slab construction ideal for creating repetitive structures such as parking ramps. The development of lift slab construction began independently by Philip N. Youtz of New York and Thomas B Slick of Texas in 1948. Although Slick received the first patent for lift slab construction in 1955, it is commonly referred to as the "Youtz-Slick Method". His patent aimed to fabricate work at ground level, reduce formwork, create uniform floors, and minimize labor required at elevated levels. The first full-scale building constructed using lift slab construction was Northrup Hall at Trinity University in San Antonio, Texas, in 1952. The process drew a crowd of spectators as they waited to see if the structural integrity would hold. Other notable examples of lift slab construction include Johnstone Hall at Clemson University and Woodrow Wilson High School in South Carolina. Lift slab construction has been used in various structures, including buildings with high-rise designs such as the First Savings Building in Berkeley, California, which was built in 1969. This building utilizes lift slab construction to support its fourteen-story height. The structural system involves a network of trusses and reinforced concrete cores that provide main support. However, the use of lift slab construction has not been without issues. The L'Ambiance Plaza collapse in Bridgeport, Connecticut, in 1987 led to a nationwide federal investigation into the technique's safety. Although the primary cause was instability with steel columns meant to support floors, other factors also contributed to the collapse. In 2019, Northminster Car Park in Peterborough, England, built using the lift slab technique, was deemed unsafe and beyond repair due to structural issues. The process begins by pouring a concrete slab on ground level. Lifting collars are set around columns as the slab is poured, later used to support the slab during raising and securing. Subsequent floors and roofs are then poured and formed on top of the initial slab. Bond breakers are used between each floor plate to allow slabs to separate as they are raised. Synchronized consoles are used to lift slabs evenly. Traditional mounting methods for jacks on columns necessitate their removal prior to lifting the slabs further. Recent techniques employ welded plates, detached from the columns, to support the jacks. In Latin America, contractors have begun employing a lift slab technique where load-bearing walls and floor slabs are elevated simultaneously. Both wall panels and floor slabs are cast on the ground, with walls connected to the slabs via hinges made from plastic ropes. As floors rise, the walls unfold into position, forming vertical support for the system. Tilt slab US 2715013, B, Slick Thomas, "Apparatus for erecting a building," issued Aug 9, 1955. "The Council of Independent Colleges: Historic Campus Architecture Project." Archived from the original on 2014-12-21. Retrieved 2014-12-21. Brackenridge, R.D. Trinity University: A Tale of Three Cities. Trinity University Press, 2016. "Wilson High School (Portland, Oregon)." Oregon Digital. Oregon Historical Site Form. Maggi, Franklin; Winder, Sarah (2015-05-15). "Primary Record: First Savings Building" (PDF). City of Berkeley, California. California Department of Parks and Recreation. Mar, David; et al. (n.d.). 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