

JOG and Teretek® Used to Raise and Re-level Semi-Detached House Extension

PROJECT PROFILE

UK21-292

mainmark



INDUSTRY

Residential

STRUCTURE

Semi-detached, three storey home

PROBLEM

Subsidence

LOCATION

Camden, London, United Kingdom

DURATION / YEAR

5 days / January 2021

TECHNOLOGY

JOG Computer-Controlled Grouting and Teretek®

BUSINESS UNIT

Mainmark UK

Summary

A three-storey, semi-detached residential property in the suburb of Camden, London, was suffering from subsidence. Built on London clay, the extension of the 144m² property had been sinking over the past 2-3 years and required a significant lift.

The downward and lateral movement was causing the extension to pull away from the main building along the expansion joint, the gap measuring 35mm wide at some points. Other damage included significant wall cracks and doors that could no longer shut due to the movement.

The owner had considered several alternatives for tackling the issues, including traditional underpinning methods and crack-stitching masonry solutions. However, these methods could not offer the lift and re-leveling necessary to sufficiently repair the damage.

Instead, the client searched online for a credible remediation solution that could provide the solution they required and chose Mainmark, based on the expertise and technical approach offered. The Mainmark team were confident they could achieve the required lift using a combination of their Teretek® resin injection and JOG Computer-Controlled Grouting solutions, via a few small injection holes, without any disruptive digging or excavations at the property.

Objectives

The objective was to lift and re-level the portion of the property which had subsided, and to achieve the best possible closure of the gap between the extension and main structure.

JOG and Teretek® Used to Raise and Re-level Semi-Detached House Extension continued

Solution

Mainmark's proprietary Teretek resin injection solution was used to reinforce the foundation ground beneath the subsiding structure. JOG Computer-Controlled Grouting was then chosen, thanks to its millimetre accuracy and high level of control, as the best option for lifting and re-levelling the house, to close the expansion joint gap.

The Mainmark team of technicians installed a total of eight JOG injectors, achieving a significant lift of 21mm along the side wall and fully closing the gaps at the front and centre of the property.

Due to the different levels of the property, the lift had to be carried out from the ground floor at the front of the property, much lower down than the rear and side aspects of the property which were at ground and first floor levels. The Mainmark team was also required to work around large immersion cylinders, heating pipework, security equipment and a large marble staircase located in the property. Thanks to the pin-point accuracy and low impact of the specialist technologies used, the team was able to access the key areas without causing any damage.

Given this challenging site layout, extra care was taken in the monitoring process. Using multiple forms of survey equipment from various points around the building to ensure full control over the lift, the team was able to carefully raise the structure one millimetre at the time.

The location of the property also meant that there was limited parking and workspace available both in and outside. It was critical that no disruption was caused to the services, external grounds, public footpaths or in the surrounding area. As such, the project was facilitated from Mainmark's bespoke self-contained JOG lorry, designed to deliver small-scale JOG equipment in a confined environment. With only a handful of hoses laid across the neighbouring footpath, and all other equipment contained in the mobile workshop on the property, the solution was delivered without disruption.

Thanks to Mainmark's minimally disruptive and specialist approach, the residents were able to use the entire house whilst the works were carried out. *"The Mainmark team did a fantastic job releveling the property quickly and efficiently,"* said the client after the works were completed. *"The process was a breeze and the repairs look great. The team were professional and a pleasure to work with, wrapping up the work on time and within the budget."*

