



PERSPECTIVES

Application of Rope Access in Building & Infrastructure Evaluations

Our perspectives feature the viewpoints of our subject matter experts on current topics and emerging trends.

INTRODUCTION

The sixteenth through twenty-first floors of your high-end commercial office building are leaking water into conference rooms, offices, and workstations, and your tenants are not pleased. You need to quickly identify the cause and origin of the leaks and find a solution to stop them. The structure doesn't have access for scaffolding, and it is too tall for a man-lift. A drone is not an option since the building is two miles from an airport. You need to find a building envelope specialist who can safely get close enough to make a determination.

Rope access provides an extremely safe alternative to conventional approaches to accessing hard to reach places on a given structure. More importantly, it is sometimes the only way to access portions of a structure to perform a hands-on, in-depth analysis. Rope access doesn't just provide a safer way to perform evaluations, it is often less expensive, faster, and more effective. Although rope access has been successfully used worldwide for over 25 years with outstanding safety results, it still remains poorly understood.

WHAT IS ROPE ACCESS?

Rope access is a work method consisting of engineered equipment, highly trained technicians, and a work plan, all of which together result in a two-line system that accommodates descent, ascent, and partner rescue, wherein the primary and the backup system are completely interchangeable. More simply stated, two-rope systems allow technicians to move in any direction to access any location on any given structure.

Caving and mountain climbing equipment has undergone multiple iterations of engineered modifications for industrial access use and now allows for a 100% safety margin. Over the last 25 years, rope access techniques have been performed in most parts of the world to conduct condition assessment, construction, maintenance, and rescue services. Since the inception of rope access in the industry, it has developed into a safe, versatile, and economical method for accessing difficult to reach locations.

The Society of Rope Access Technicians (SPRAT), based in the United States, is a governing body that is dedicated to promoting the safe development of industrial rope access

standards. Established in the mid-1990s, SPRAT addresses the needs of a growing number of companies employing rope access techniques. SPRAT's development of industry-consensus standards has raised the awareness of the safety and effectiveness of rope access systems.

WHY CHOOSE ROPE ACCESS?

There's an old saying that pops up in most industries that goes something like, "Fast, Cheap, Good...pick two." Well, that isn't the case anymore, because with rope access you can have all three. Rope access allows technical professionals such as adjusters, architects, engineers, and consultants to apply their trade in the most extreme environments. Curtain walls, steep pitched roofs, bridges, towers, stadiums, monuments, and a wide assortment of other structure types often need to be inspected for a variety of reasons

- Determining cause and origin of damage to a building façade
- Determining the source of water intrusion through curtain walls
- Determining scope and breadth of deterioration through non-destructive and/or destructive testing
- Performing structural evaluations
- Evaluating façade damage to determine the scope of repairs
- Evaluating the need to mitigate potential falling debris hazards from deteriorating structures
- Performing underwriting evaluations

The list goes on and on, but whatever the reason, it is imperative that a qualified technical professional gain access to key locations to perform their evaluation. Many of these locations are too high for a manlift to reach, or there isn't manlift access. Suspended scaffolding (commonly referred to as a swing stage) is large, cumbersome, and costly. Drones have provided a great way to gather information and are instrumental when it comes to capturing a large quantity of data or cover an expansive site quickly, but they cannot perform a hands-on analysis, take samples, or perform physical testing that, at times, is required.



The rope access technician has none of these limitations. Ropes can be made to any length so that the tallest points of structures can be reached. Set up and tear down is so quick that a team of two can perform a hands-on evaluation of one façade of a 20-story high rise in one day. Conversely, if there is a need to have non-destructive testing performed at a singular location, that same team could be in and out in under an hour. The rental charge for a manlift alone would be costlier.

When it comes to large sites with multiple buildings that could present volume problems for a small rope access team, the tandem use of drones with rope access technicians can be particularly beneficial. Drones can provide a high-level assessment of an entire site and give the technical professional an idea of which locations need to be accessed for a more detailed evaluation. This combination of technological and human-based effort has been proven to save hundreds of man-hours.

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CONCLUSION

Although gaining access is necessary, it is not the most important aspect of performing the work. We are technical professionals first, and how we get to the location to perform our trade is second. Manlifts, swing stages, scaffolding, and other traditional methods of access certainly have their place in the industry and are often the right tool for the job. Rope access is just another tool to grant that professional the proper access to do their work. There is a right tool for every job, and when rope access is utilized appropriately, the job will get done more efficiently, more effectively, and at a lower cost all while maintaining the highest industry standards for safety.

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