

BERMINGHAM

FOUNDATION SOLUTIONS
SINCE 1897

PROJECT REPORT

40 MN STATNAMIC Load Test

Miami, Florida



When STATNAMIC agents Applied Foundation Testing (AFT) of Florida needed to conduct the largest STATNAMIC load test ever, Birmingham pushed the limits of foundation testing by providing custom upgrades to existing load testing equipment.



In STATNAMIC testing, solid fuel is burned within a pressure chamber. As the pressure increases, an upward force is exerted on a set of reaction masses while an equal and opposite force pushes downward on the pile. Loading is perfectly axial and the relatively slow application and release of compressive forces eliminates tensile stresses, compressing the pile and the soil as a single unit, allowing an accurate measurement of the load-displacement behavior.



The highest capacity of any previous STATNAMIC device was 30 MN, however AFT required an even greater capacity for this project. Thanks to Birmingham's engineering and manufacturing capabilities, existing equipment was retrofitted to handle an increased capacity of 40 MN – a world record for STATNAMIC testing! The STATNAMIC load test was performed at the Miami International Airport Intermodal Center on a rock socketed, drilled shaft, installed by foundation contractor Treviicos South. The test also allowed for an important opportunity to determine the effectiveness of new shaft bottom cleanout procedures.



Newly upgraded 40 MN STATNAMIC device during onsite assembly.



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