

TRUSTED PARTNER IN THE TENDERING AND DETAIL PHASE**REASONS TO CHOOSE ACIRE**

1. EXPERTS IN DESIGN AND CALCULATION
2. NATIONAL AND INTERNATIONAL EXPERIENCE
3. SUPPORT THROUGHOUT THE ENTIRE PROJECT
4. CLOSE RELATIONSHIP WITH SUPPLIERS
5. COOPERATION WITH UNIVERSITIES

**SERVICES**

- ARCHITECTURE
- GEOTECHNICS
- FOUNDATIONS AND STRUCTURES
- CORROSION STUDIES
- HYDROLOGY AND HYDRAULICS
- ENERGY ANALYSIS AND PROJECT FINANCE
- PHOTOVOLTAIC SYSTEMS
- TECHNICAL DUE DILIGENCE
- ENERGY EFFICIENCY
- BASE PROJECTS
- ACIRE ACADEMY

ACIRE

STRUCTURAL CALCULATION OF WIND TURBINE FOUNDATIONS

FOUNDATION PREDESIGN - BoQ

Predesign of foundations for a wind turbine in the bidding phase based on the available geotechnical information, the foundation loads of the technologist and the anchoring system with the tower.

- Optimized designs for the site
- Shallow foundations with and without hydrostatic force and piled foundations.
- Optimized designs through compressive layer and adaptation of the geometry to the anchoring system
- Lift pedestal foundation
- Solid foundations for steel tower and hollow foundations for concrete tower
- Definition of the table of materials (Bill of Quantity) for the offer phase

DETAILED CALCULATION OF FOUNDATIONS

Detailed calculation of wind turbine foundations of different types in the construction phase adapted to the geotechnical conditions, tower type and foundation-tower anchoring system.

- Creation of calculation report
- Definition of the formwork and the reinforcement drawings
- Reinforcement list document
- Geotechnical validations

DETAILED CALCULATION OF BOLT CAGE

Detailed calculation of the bolt cage including:

- Definition of bolts
- Definition of the upper and lower anchor template

SEISMIC CALCULATION

Predimensioning of the foundation and detailed calculation under earthquake loads according to local regulations.

POST-TENSIONING PROCESS DESIGN

Definition of the bolt post-tensioning process for the foundation-tower anchorage system using bolt cages:

- Defining the order of post-tensioning
- Definition of initial and final force of post-tensioning
- Definition of elongations
- Definition of the maintenance and the retensioning
- Preparation and review of the technical specification and the post-tensioning protocol

DEVIATIONS DURING CONSTRUCTION

Analysis of deviations during the construction phase of the foundation and post-tensioning. Design of technical solutions against pathologies and non-conformities.

COMPLETE REVIEW OF DETAIL ENGINEERING

Detailed review until approval of all the technical specifications, calculation reports and drawings for the wind turbine foundations and the tower-foundation anchoring system provided by contractor companies.

STRUCTURAL CALCULATION OF FOUNDATIONS IN SOLAR PROJECTS

FOUNDATION PREDESIGN - BoQ

Predimensioning of foundations for fixed structures and trackers in the tender phase based on the available geotechnical information and site loads.

- Shallow foundations
- Deep foundations

DETAIL CALCULATION OF FOUNDATIONS

Detailed calculation of foundations for fixed structures and trackers for the construction phase adapted to the geotechnical conditions.

- Creation of calculation report
- Definition of drawings
- Geotechnical validations

DEVIATIONS DURING CONSTRUCTION

Analysis of deviations during the foundation construction phase. Design of technical solutions against pathologies and non-conformities.

ENGINEERING REVIEW IN DETAIL

Detailed review until approval of all technical specifications, calculation reports and foundation drawings provided by contractor companies.



ABOUT ACIRE

ACIRE is a global consultancy focused on architecture, civil engineering and renewable energy projects.

We provide differential value in the architecture, engineering and renewable energy sector, based on a multidisciplinary approach to projects and with a vocation for innovation and optimization

ACIRE is formed by a team of professionals specialized in civil and mechanical engineering, architecture and management, with extensive national and international experience.

As a trusted partner, we are committed to providing techno-commercial solutions and technical and financial advice to our clients around the world, with the main objective of achieving even more competitive and profitable investments, and generating sustainable growth for our clients, our employees and our company.

