

**Commercial Buildings****Reference Details:**

Owner SNC Duparc
Eoliennes, Oupia,
France +++ **General**

Contractor SIF
Energie du Midi,
Beziers, France +++

Contractor GTM,
Marseille, France +++

Subcontractor
TEMSOL, Mégnac,
France

DSI Unit DSI France,
Marines, France

DSI Services Supply
and stressing of 45
DYWIDAG Ground
Anchors Type 15 x 0,6",
21 m long, corrosion
protection class P2,
permanent protection of
anchor heads



DYWIDAG anchor systems contribute to renewable energy production

Oupia Wind Park, Southern France

After Great Britain, France is the European country with the highest potential of wind energy production. Nevertheless, France's energy politics were totally focused for many years on nuclear power only, with the result, that other European countries are now in the lead over France in the area of wind energy generation. Recently, the French government has developed new activities to accelerate the exploitation of this energy source. Many projects are now flourishing all over the country.

Structural foundations are the principal unknown to any producer when projecting energy-generating windmills. The foundation has to withstand most unfavourable wind conditions. To realise the foundation by using a heavy-weight block element would mean costly excavation, reinforcement and concrete-pouring, in particular when access to the construction sites is difficult. The alternative solution to massive concrete blocks is to use prestressed ground anchors, which "tie down" much smaller concrete foundation elements of the wind turbines.

This concept makes it possible to economically overcome the dynamic efforts on the foundation and eliminate fatigue so that dimensioning can be conducted on the basis of statics only. During summer 2003, DSI France supplied and stressed 45 permanent DYWIDAG Anchors with 15 strands 0,6", 21 m long for the Oupia Wind Park in Southern France.

The stressing forces had to be adapted to the settlement behaviour of the foundation blocks, which were not identical for the nine windmill foundation of the site.

