

Belzona Products repair and waterproof Wind Turbine Base

ID: 8158

Industry: Power
Application:
Substrate: Concrete, Metal, Old Epoxy Grouting
Products: * 4131 ,
* 3111 ,
* 4511 ,

Customer Location: Texas
Application Date: Sep 2019

Problem

After years of service the interface between the wind turbine tower and the concrete base deteriorated because of water ingress and freeze-thaw. An unknown product was used as a repair but never bonded correctly to the concrete and cracked along with the old concrete. Also the sealant in the expansion joint failed in the area between the tower base and the concrete and the gap had gotten very wide. Water was ingressing into the tower base structure itself. The tower itself was vibrating during operation because of the gaps and crack around it.



Photograph Descriptions

- * 1. Damaged concrete base with coating peeling. ,
- * 2. Damaged concrete base seeing old grout not bonded to the old concrete. ,
- * 3. 4131/4911 bonding the old concrete and old grout forming a new circular base. The 4511 expansion joint product applied in the interface. 3111 being applied around the finished base. ,
- * 4. The whole base up to the metal structure completely weatherproofed with 3111. ,

Application Situation

Wind Farm Bases needed reconstruction and weatherproofing with a non-porous product that could also protect the base from freeze-thaw cycle.

Application Method

Took all loose concrete and old loose grout out. The perimeter area of the tower was grouted with Belzona 4131. Belzona 4131 was used to make a new circular base around the interface. Belzona 4511 was then used in the interface area as the expansion joint

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sealant between the concrete and the metal. Finally the whole tower base was waterproofed up to the metal with Belzona 3111.

Belzona Facts

The customer was happy to see Belzona was the perfect solution for the job. The vibration of the tower stopped and the whole area is weatherproofed. Many more bases have been done with different degrees of damage solving a huge problem for the customer.

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