

**Building High Quality C70-C100 Concrete-steel Hybrid
Tower of Wind Turbine for Green Energy
Beijing Gaoqiang Concrete Co., Ltd**

As a 30-year concrete enterprise, Beijing Gaoqiang Concrete Co., Ltd.(henceforth referred to as “Gaoqiang”) has always closely in line with the national development, which is transforming into the Wind Energy Industry. It devotes to achieve carbon peaking and carbon neutrality goals by improving the important wind power projects. It holds

Advanced concrete products: Under the integrated system of production, learning, research and application, Gaoqiang has developed many advanced concrete products of ultra high performance concrete(UHPC), jacking construction of concrete filled steel pipe, self-compacting concrete, anti-cracking and waterproofing concrete etc. The jacking construction of concrete filled steel pipe is the leading in China and the international advanced level. The C70-C100 concrete have been successfully applied in concrete-steel hybrid tower of wind turbine.

The first high performance concrete-steel hybrid tower experiment center by enterprises in China: As the concrete industry leading enterprises in Beijing, Gaoqiang is famous for “Double High-tech” of Beijing high-tech enterprise and Zhongguancun high-tech enterprise. Furthermore, Gaoqiang is regarded as Beijing Intellectual Property Pilot Enterprise and Beijing Enterprise Technology Center with 47patents. With super research& development capabilities, Gaoqiang has

edited 11 ISO standards, 5 national standards, 3 industry specifications and 10 group codes. In 2023, Gaoqiang built High performance concrete for hybrid tower of wind turbine experimental center, which will effectively guarantee the tower quality and greatly improve the technology iterative upgrade for the partner.

High quality concrete-steel hybrid tower for Three Norths Shelterbelt Project: Gaoqiang had built concrete-steel hybrid tower in Northwest, North and Northeast China, greatly support the national ecological engineering construction of Three Norths Shelterbelt Project. In 4, 2022, Gaoqiang had built C70 concrete-steel hybrid towers with 40m height in Mangya city, a no-human zone in Qinghai province. It's the first application of C70 concrete under the plateau continental climate; In 6, 2022, 880 prefabricated C80 concrete components had been completed in Damao county of Inner Mongolia; In 6, 2023, Gaoqiang set 2 records by building concrete-steel tower with over 100m height and over 8m diameter in Weinan, Shanxi province. Now, Gaoqiang will break the record itself by prefabrication of towers with 120m height in Tieling, Liaoning province. The variation of tower height from 42m, 112m, 120 to more higher is not only the tower height, but the development and advancement of concrete technology in Gaoqiang.

Gaoqiang principle of *We have the unique and the best in concrete field*: During the concrete-steel tower construction, a steel framework had been invented and applied for patent. It can improve the construction quality by controlling the reinforcement expansion joint within 3mm, ensure the safety as well. In 3, 2023, Gaoqiang edited the CCPA standard of *Technical specification for production of prefabricated high strength concrete-steel tower of wind power and other concrete standards*. The

standards will greatly improve the high quality development of concrete-steel tower of wind power. Under the guideline of Gaoqiang principle of *We have the unique and the best in concrete field*, Gaoqiang is building green energy for human beings and developing from land to sea.