

ecoFIT

135'000kg CO₂-eq savings for the Philippines' largest carrier-neutral data center NARRA1

Digital Edge DC, Singapore

Corrosion-free thermoplastic piping solution and reliable welding technology enable rapid and high-quality installation of sustainable data center liquid cooling infrastructure

Corrosion-free plastic piping solution enables the data center NARRA1 to reduce greenhouse gas emissions by over 135'000 kg CO2-eq

Singapore-based Digital Edge DC develops innovative, energy-efficient data centers across the Asia Pacific. For the company's NARRA1 data center, located in Manila, the Philippines, they were looking for a durable, high-performance piping system that local fitters could install on a tight schedule. GF's HDPE piping and superior welding technology, coupled with on-site support and expert training of local fitters, were the game-changing innovations that ticked all the boxes.

Project background

As the rapid growth of online services and artificial intelligence applications fuel global demand for data center and colocation infrastructure, cooling and its associated power requirements are emerging as a critical concern. Setting a new standard in data center power efficiency, Digital Edge DC implemented an innovative cooling system that uses a liquid, not air, to cool the server rooms in its 10MW facility, the largest carrier neutral data center in the Philippines. To implement their system, they needed a non-corrosive, lightweight piping system that could be quickly installed into an existing structure.

Selected technical solution

The project was ambitious in terms of its size, performance, environmental sustainability, and timing, requiring innovative solutions and efficient stakeholder collaboration. For the GF team in the Philippines, one thing was clear: conventional metal piping wouldn't meet the client's high expectations. "We engaged the end users and convinced them to convert their metal system into GF HDPE by GF, introducing a corrosion-free solution for mission-critical applications," says Junior Rasay, Market Segment Manager – Cooling, GF Piping Systems Philippines. Moving to GF HDPE promised Digital Edge DC numerous additional benefits. First and foremost: rapid, high-quality fitting with GF's rapid, reliable, and high-quality fusion technology.

Achieved improvement

"The biggest challenge on-site was the tight schedule implemented to complete the project," says Christian Rivera, Service Engineer at GF Piping Systems Philippines. With a tight deadline looming, the choice of HDPE piping was a game-changer. GF experts trained and certified local installers accustomed to working with metal pipes and fittings in the use of HDPE jointing with electrofusion technology. This enabled them to competently install the four kilometers of piping and over 11,000 fittings into the pre-existing structure, saving valuable time while upholding the highest standards of quality and reliability. Moreover, the lightweight plastic solution reduced the load on the structure and lowered carbon emissions by over 135,000 kg CO2-eq compared to the initially specified metal alternative.



On site training for a safe, fast, and reliable installation of the mission-critical cooling loop.



More than 11'000 corrosion-free PE100 fittings help to lower the carbon emissions of NARRA1 by over 135'000kg CO2.

Customer benefits

- **Corrosion-free, lightweight piping system with minimal heat loss, ensuring reliable cooling of mission-critical data center applications in Southeast Asia's most energy-efficient facility.**
- **One stop shop provider, spanning products, support across all project phases, and certification of local fitters, ensuring rapid, safe, and reliable deployment using GF Piping Systems's superior welding technology.**
- **Considerable weight reduction compared to the metal alternative, with carbon emissions reductions of over 135,000 kg CO2-eq.**

Where next?



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