GF Waga N.V.

+GF+

WAGAzine

NO. 27 | 05.2023

MULTI/JOINT®
obtains an Environmental Product Declaration

Connecting the wind
Optimizing cable protection for efficient wind park connections

Coming soon
New Heroes DN900, DN925, DN1000 & DN1025

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INTRO

Dear Waga friend,

I am thrilled to introduce to you our 2023 Wagazine, which focuses on the crucial topic of sustainability. As concerns about our planet continue to grow, it has become increasingly important for companies to limit the environmental impact of their products in order to meet the demands of the market. At GF Waga, we have been actively reducing the carbon footprint of our products for several years now.

In this edition of the Wagazine, we highlight how our new digital sales tools contribute to our sustainability efforts. We also elaborate on how "green" our red MULTI/JOINT® fittings are and how this can benefit your business.

Additionally, I am excited to present our latest product: the new big dimensions MULTI/JOINT®. We have been offering full end-load restraint ductile iron wide range fittings in sizes up to DN800 since 2021 and are now expanding this range to include sizes up to DN1025. We believe that this new product will be a game-changer for our customers and set us apart from our peers. These new sizes will be introduced in the market in the second half of this year.

I hope you enjoy reading about our sustainability efforts and the latest additions to our product portfolio. We have also included some inspiring reference cases featuring our MULTI/JOINT® fittings. Thank you for your continued support, and happy reading!

Edwin Sonneveld

Managing director Georg Fischer Waga N.V.

ADDED VALUE

Niko Verhaegen
Global Business Applications
Manager for New Technologies

Revolutionary: MULTI/JOINT® in VR

Virtual Reality is the next big thing worldwide. Niko Verhaegen, Global Business Applications Manager for New Technologies within GF, tells us all about it...

What is VR exactly?
VR stands for virtual reality. It means you create a world that looks very much real, but does not physically exist. It can look like the real world in a mind blowing way. Think of a coral reef under water, but it can also be something completely different than the world we know today.

Within GF, which countries or departments use VR already?
GF Piping Systems is the first division which uses VR for training purposes. AR, augmented reality, has been used for GF remote support, for a while already. And at the end of the year 2019, VR was introduced as well. These VR training courses found their origin at GF Belgium, but The Netherlands and headquarters in Switzerland were soon involved. Recently, the first 'train the VR trainer' sessions were added to the program and VR modules are now used in Italy, the United States, Japan, Denmark, Sweden, Norway and Finland.

How do we use VR within GF?
At the moment, with VR, we focus on the transfer of knowledge in combination with hands-on experience. This we do by the means of application courses while you are going through the steps to fulfil the assignment. You could think of bonding PVC in a waste water treatment plant, electrofusion welding of cooling pipes on a ship or repairing a drinking water pipe line with a DN800 MULTI/JOINT®. These are not standalone practices. At least, that is not what is intended here. It is more of an expansion of our current theoretical and practical courses. In the virtual world there is much to simulate and stimulate.

What is the goal of these courses?
The purpose of these VR courses is to eventually certify people. It is possible to do VR with more than one person at a time, but we like to focus on an individual learning curve. Everyone goes through all of the steps of the course and does this at their own pace and with their own hands.

What do you experience when doing VR?
All senses are being stimulated during a session and the 'players' level of concentration is very high. You, and only you, will have to solve the challenge... However, you are guided through text, symbols and/or a voice that is speaking to you through your headset. The experience you are gaining, is something you can bring with you to the real world. Basically, you are preparing yourself for situations that have yet to occur... A little bit like what they are doing at NASA!

Who is it meant for?
Everyone who is dealing with piping systems from GF. You can think of installers, contractors, supervisors and of course GF employees, such as sales people, marketers, R&D engineers and production workers. Last but not least, definitely all students who are following a relevant technical education.

“There is a 100% concentration. No distractions.”

Why a VR training, especially for MULTI/JOINT®?

That was actually a simple choice. The MULTI/JOINT® is a great product which is used everywhere around the world. No matter where you are or what the challenge is, it is a problem solver for repairing leakages or maintaining and creating piping systems. It is applicable in a lot of situations. When following procedure correctly, chances are small of anything going wrong. Unfortunately, in practice, we occasionally do see a human error during installation. That said, when the restraint MULTI/JOINT® DN800 was launched, it was too big to take it with you to local training courses. A VR module was a logical step and added value for everyone.

What does this MULTI/JOINT® VR module look like?

I do not want to spoil too much of course, because I would like you to try it yourself, but your job is to fix a fractured DN800 pipe. Fortunately in this training, time is not a limiting factor. You are working through the module by connecting a steel pipe and a HDPE pipe with one single restraint coupler. And as a reward, well, you have to find out.

What are the results of the MULTI/JOINT® VR course so far?

We are not 100% there yet when it comes to the structure of this course. However, the feedback from our customers was very positive, unanimously. In this virtual world, everyone works hard until the end of the module and leaves this world with a big smile.

What reaction did you get regarding this MULTI/JOINT® VR course?

In terms of reactions, there are the good feedback comments. Also, the virtual world creates completely new possibilities and supports playful learning. Everyone is motivated to complete the model and show their skills when diving in this new world. But this training should not be short of fun and so far the training has made quite a few people smile. Participating colleagues from all around the world recommend it to other colleagues. One could not imagine better advertising. There are also people who have trained themselves in the VR world and did an actual installation in the real world afterwards. They told us VR turned out to be very useful for them.

A glimpse of what awaits you when following the MULTI/JOINT® VR training course

“I am allowed to dream a little, right?”

What are the benefits of training with VR?
There are a number of benefits. One of them is that you are individually taking this path, only you. There is a 100% concentration, no distractions. Another benefit is that you are learning at your own pace and you can repeat the course until you have mastered it. You are able to practice in ideal circumstances, within a safe environment, with the best weather conditions possible. You are not ‘wasting’ materials and you are able to work with the newest equipment. All the while, you are learning some tips and tricks as well.

Are there any pitfalls or points for improvements?
You learn as you go. That is no different for our VR modules. The very first module was built very differently than our most recent ones. You have to have a clear view on what is useful. We made sure there is some repetition in our VR applications and we build up the level of experience towards the end. There are plenty of pitfalls, what I want to avoid is that our VR modules are considered as some kind of game or gadget. They are training courses that have deep value and can be a great addition to our current top of the bill training package.

Are there any plans to roll out VR even more? What are your plans for the future?
The next step is to roll out the GF VR Portal, so we can facilitate and follow up on our modules in a professional and efficient way. Next to this, in 2023, we will focus on developing certificate modules on top of the existing training modules. However, VR can be a great asset for everyone. Think of training in what they call ‘people skills’.

What do you think the future is going to look like regarding VR within GF?
I am allowed to dream a little, right? In that case, I hope that by the end of 2023, all of our training courses have an AR/VR facet and that we are able to train and certify people all over the world in the same way.

Any additional thoughts on the subject?
Virtual reality is earning its place in the world and our daily lives. Compare it to cellphones 30 years ago. Many of us were skeptical at first, thinking: “for heaven’s sake, what are we able to do with this?” Well, look at us now. As we speak, chances are your cellphone is within reach.

Are interested parties able to contact you?
Of course that is possible. Find my contact information below. Who knows, you might even bump into my avatar while you are having your very first GF VR training. ■

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CHECK OUT OUR
NEW VIDEOS!

Watch them all

+GF+

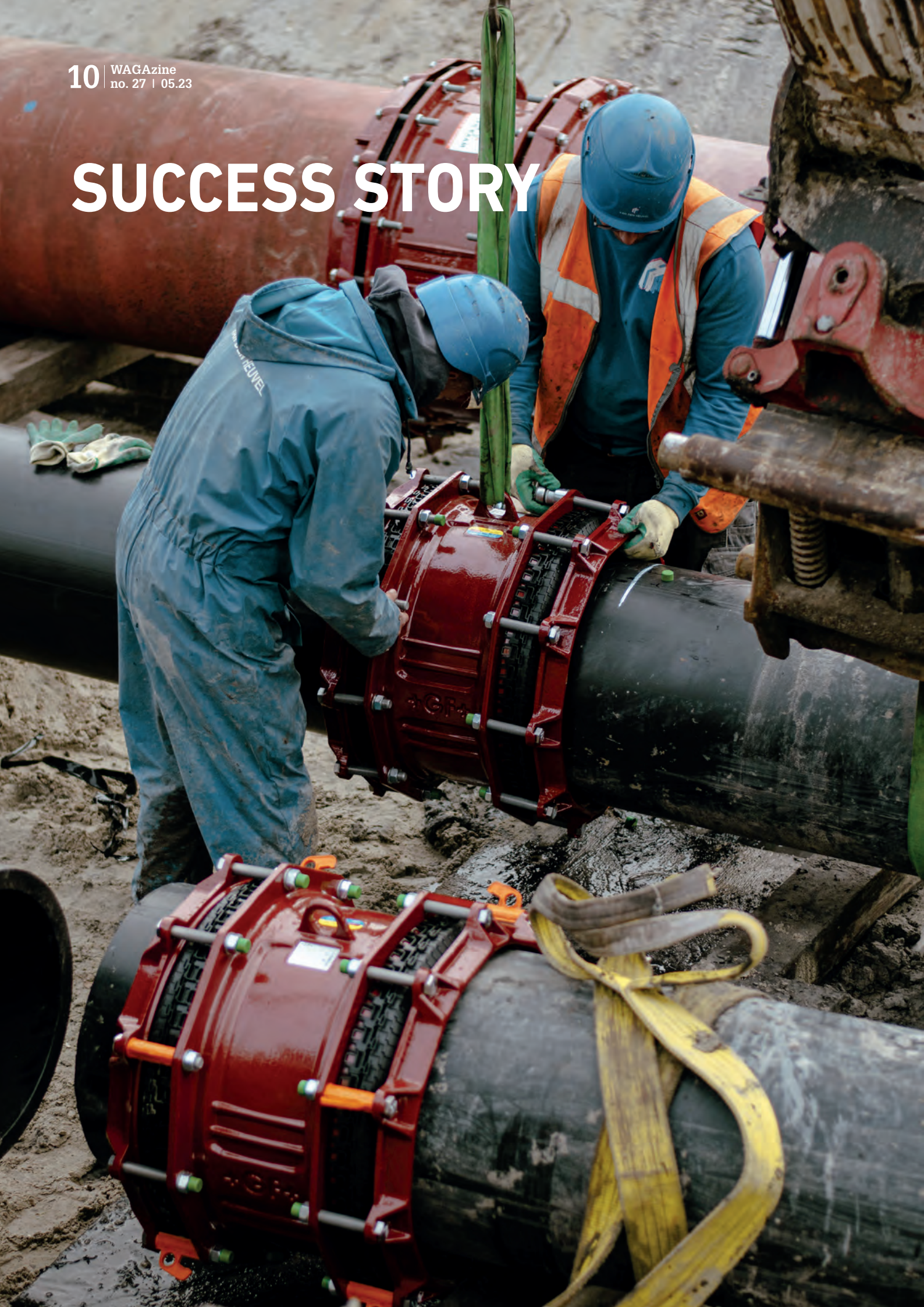
New Heroes

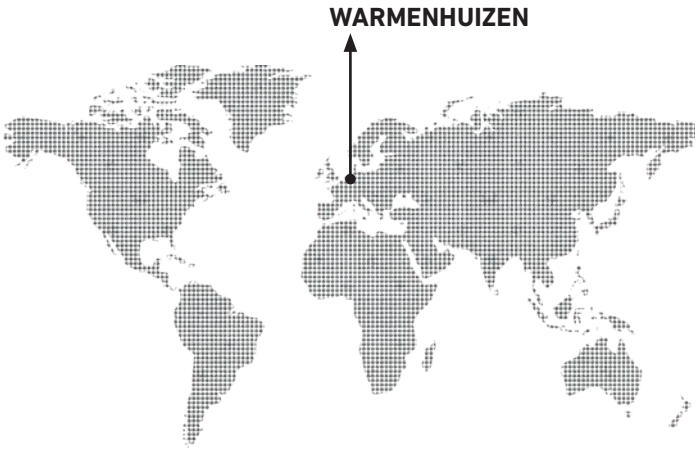
MULTI/JOINT® 3000 Plus
Big, Red & Strong

COMING SOON

DN900, DN925,
DN1000 &
DN1025

SUCCESS STORY





Time is of the essence

How MULTI/JOINT® saved the day in critical sewage valve replacement

The consequences of a malfunctioning valve can be catastrophic. Especially when it comes to sewage applications. If valves do not work properly, certain pipe sections cannot be shut off in the event of an emergency. Backflow might occur, which means contaminated wastewater will flow into clean water sources. Or there will be an overflow, where the wastewater has a significant impact on the environment, damaging ecosystems and degrading water quality. To prevent all this, two valves in the sewage system which were deadlocked, needed to be replaced in Warmenhuizen – the Netherlands.

Two valves which connect a cast iron pipe with a diameter of 900 millimeters, a pipe of 800 millimeters and two pipes of 500 millimeters, needed to be replaced within eight hours. “It is important that this replacement happens within this time frame, as we can only buffer for a maximum of eight hours in the sewage pumping stations,” says Peter Stoop, maintenance engineer for the sewage system at Hoogheemraadschap Holland Noorderkwartier.

This company, also known as HHNK, is responsible for the discharge of wastewater to the treatment plant. “The municipality collects the wastewater in the free-fall system, we take over at the lowest point and transport it to the treatment plant. This pipeline system we are currently working on, is designed for that purpose. The pipes must be connected again in time, so that we can discharge the wastewater to the treatment plant. Otherwise, there ››

will be overflow in the municipality's outfall system. The wastewater will then eventually flow into the ditches, which is bad for the environment."

The distributor of piping systems, Van Kaam, provided the materials needed for the project. Because of the limited time window, the company chose MULTI/JOINT®. Sales representative Remon van Wolfswinkel explains why. "One of the benefits of the MULTI/JOINT® is that we can have a fast installation. The product is ready to use from the start, you don't need to remove the bolts first or anything. It is like plug, play, install, fast, easy and simple. It just gets the job done." Contractor Van den Heuvel Infrastructure agrees. "In the past, the pipelines needed to be aligned and facing each other. There was no room for corrections during the installation. With the MULTI/JOINT® there is space to correct angular misalignment. This gives us many advantages, because now you can make a fast installation," says site supervisor Richard Groot.

That is not all. "GF won this tender, because they offer support from A to Z and their product came out best," Peter Stoop continues. "They provide support for measuring the diameters, ordering the right fittings and delivering the product on time. The challenge in this project was the misalignment of all pipes. The existing pipe was crooked. Many fittings cannot accommodate that angularity, but the MULTI/JOINT® can. This product has a nominal angularity of 8 degrees on both sides, so 16 degrees in total. That way, we could solve this problem. Also, we are able to install MULTI/JOINT® in advance on the pipe ends that we are going to use in the pipeline system. That gives us a lot of time advantage. Throughout the process, GF's support has been excellent. From ordering the right product to delivering it."

“GF won this tender, because they offer support from A to Z and their product came out best.”

The final stage in this project was that the newly placed valves were opened again, the sewage pumps were turned on, and the wastewater flowed to the treatment plant. And all that perfectly on time.

Don’t miss all the ins and outs of this installation, watch the video here. ■

ADDED VALUE

Made of used plastic shampoo bottles

Helping save the planet

Did you know this about our green hygiene caps?

The sweet fragrance of sweet flowers escapes from the MULTI/JOINT® hygiene caps. What causes the cap to smell like that? The secret lies in the origin of the caps. They are made from plastic shampoo bottles. From the outside you don't notice any difference to the earlier caps. However, these current versions are made from recycled plastic. So, waste avoided and even better, a new added value and life cycle of the product was created.

GF Waga is constantly looking for ways to further develop their products and working methods. Among other things, the company introduced the separation and reuse of waste at the (production) site in Epe, upgrading the sustainability of the premises and carefully reconsidering and selecting the materials throughout the past couple of years. The latter goes for the MULTI/JOINT® hygiene caps as well. They are made of recycled material and with this, GF Waga took another step forward.

In the past, the caps used to contain only virgin plastic material. In other words, newly made plastics. Now, they are entirely made from post-consumer plastic waste. Not only shampoo bottles are used for these hygiene caps (hence, not all caps will smell this wonderful, but some sure do). Other plastics as well, are processed in these well-known green caps. From bottles to packages. All the plastic waste that comes from the end user, is processed into new useful materials.

The creation of new plastics, causes a depletion of resources on earth. Reusing plastics is a perfect way of limiting the impact on the environment. To begin with, it is better for our oceans and all the life in it. With the hygiene caps of recycled material, plastics get a second shot at life and GF Waga is able to minimize the ecological footprint. A responsible choice. Not only for GF Waga, but for all customers using MULTI/JOINT®.

Who knows, the next generation of hygiene caps might as well be made of some sort of plastic that dissolves into the ground within a couple of years. Impossible? Or just the next step... In the meantime, don't forget to recycle the hygiene caps again. This way, the material is put to good use. Over and over again. ■

SUCCESS STORY

From old to new

At an abandoned estate in the Dutch village Drunen, you can find the remnants of amusement park Land van Ooit (the Land of Ever). Once upon a time, theatrical knight battles took place there and the theme park carried the motto 'where children rule'. Due to bankruptcy, the park closed its doors 16 years ago and is overgrown and neglected ever since. The once so fairytale-like decorations have a deteriorated appearance now.

But not for much longer. The estate is bought up and there are plans for a high-tech medical campus and high-quality residential buildings. There is a lot of work to do. Not only above ground, but underground as well. A project where MULTI/JOINT® turned out to be very useful.

According to the construction plans, a transport pipe of the water board needed to be moved up half a kilometer. The AC pipe, with a diameter of 500 millimeter, had to be connected to a HDPE pipe that was easily placed in the ground thanks to horizontal directional drilling (HDD). For the project, contractor Vissers Ploegmakers from Oss, water board 'Aa en Maas' and municipality Heusden joined forces. The municipality took care of the tender and the contract, as the water board was responsible for the technical specifications in the design and the subsequent supervision.

For the project a MULTI/JOINT® 3000 Plus DN500 coupler was used to connect the AC pipe with the HDPE pipe. What was the reason for selecting this particular fitting? "Of course, there are more couplers on the market we could have used. However, the water board is very content with MULTI/JOINT®. This coupler is restraint, wide range and suitable for various pipe materials", says Fred Bergman, employee at the water board Aa en Maas. "We require MULTI/JOINT® more often, given the broad applicability. It is a great fitting." The restraint coupler was successfully installed within an hour. ■

MULTI/JOINT® obtains an Environmental Product Declaration

Michel Hulsebos
Technical Manager

Imagine, you want to use the most environmentally friendly cup to drink from. Would you choose the earthenware mug or the paper cup? This question seems easy to answer. However, for washing the earthenware mug, you need water, soap and energy. For the cardboard cup, you need more than just one over time, as it is a disposable product, which affects the deforestation and causes more waste. So, which one is actually best when it comes to the environment?

To answer this question, more and more companies provide a declaration which describes the impact of their product on the environment. You could consider this to be some sort of environmental passport which gives you all the information you need to know: the Environmental Product Declaration (EPD).

Why the need for an EPD is growing

"There is an increasing demand to objectively quantify and compare the impact of a product on the environment," says Michel, Technical Manager for GF Waga. "This way, as a customer you can more easily choose the most environmentally friendly product. Simply because you are able to see the impact on the environment of similar products. In addition, there is an increased pressure from society and from authorities to reduce CO2 emissions."

"That is why you see more often that the impact of a product is described as 'kilogram CO2 equivalent' (kg CO2 eq.). With this, the Global Warming Potential (GWP) is expressed in a certain amount of kilogram CO2," Michel explains. "But this is only one way to calculate and document the impact on the environment. There are a lot more factors to take into account. For example, think about a specific amount of drinking water that is used while making a certain product. Or what the effect is on the flora and fauna, the risk of emergence of harmful pathogens, the impact on the ozone layer, resource depletion and so on."

How is an EPD established?

"This overall calculation to predict the effect on the environment is called Life Cycle Assessment (LCA). Every single aspect of a product is looked at. From raw material to production and transportation. Also the effect of usage and the ability to recycle (parts of) it is looked at. This is called the cradle-to-cradle principle.

“We are demonstrating that we are aware of our role when it comes to sustainability.”

Agreements need to be made about what it is you are calculating and how exactly. Otherwise, you would never be able to compare the results with each other,” says Michel.

“Let’s take the car industry as an example. To compare fuel consumption of different cars, all manufacturers need to go through the same trajectory, under identical conditions. That way, it is for us customers possible to compare the outcome of fuel consumption rates and choose the most fuel-efficient car there is. Or, closer to home: every manufacturer of fittings can say their product can handle 16 bar of pressure. But if you do not agree on how to test this, the claims manufacturers make, cannot be compared with each other. That is why the European standard EN14525 exists. We tested according to these standards and KIWA gave us a certificate (BRL 775) for it. Conclusion? The MULTI/JOINT® fittings can indeed handle 16 bar of pressure.”

“In the same way, agreements have been made on how to calculate the environmental impact of products. This has been established in various international standards. An independent organization oversees that the calculations carried out by manufacturers are accurate and that the environmental claims are true. These organizations, also known as ‘program operators’ have additional rules on top of the standards, called Product Category Rules (PCR). Once a program operator confirms that your calculation is in compliance with the standards and PCR, you will receive an Environmental Product Declaration (EPD). The certificate contains the LCA values and environmental effects, similar to a passport, you could say.”

The EPD process for GF Waga

“In 2022, GF Waga went through the entire process for the MULTI/JOINT® 3000 Plus. Every component of our product, including the little caps on the bolts, was examined for its environmental impact. With the help of the University of Delft’s database, we were able to map out the impact of our materials. Fall 2022, our Life Cycle Assessment (LCA) was submitted for verification to the program operator EPD-Hub. After only a few minor corrections, our EPD was officially published on the program operator’s website in November.

“I am convinced that an LCA (the EPD) will become increasingly important in the future. Products will no longer be compared based solely on price and presentation, but also on their environmental impact. In other industries, I already see this trend emerging in tenders. The party with the ‘cleanest product’ wins the tender, even if the price and performance may lag behind that of the competition. We have noticed early indications that our market is starting to appreciate the significance of having an Environmental Product Declaration (EPD), and we are actively taking responsibility for our part in promoting sustainability.” ■

EPDHUB.COM

Connecting

Picture: ANP

the wind

Optimizing cable protection for efficient wind park connections

Imagine walking the Dutch coast line, when all of a sudden a giant machine appears at the horizon. It is something you surely haven't seen before. The enormous yellow colored monster crawls ashore and digs into the ground with great force. What is going on here?

At the Dutch coast, a big project took place. Four electricity cables – 220 kilovolts each – were connected to the high-voltage grid of TenneT. TenneT is the electricity transmission system operator and owner of the high-voltage grid in the Netherlands and a large part of Germany. These cables with a total length of approximately 200 kilometers, originate from two wind parks at sea: the Hollandse Kust Noord and West Alpha and had to be connected to the main land (near Wijk aan Zee). The enormous yellow machine is a unique invention of contractor Jan de Nul and is called 'the Moonfish'. It is able to move itself over the seabed and buries cables into the ground while doing so.

A green energy supply for the future

The most important task of TenneT is ensuring a reliable and safe electricity supply. The company works on an electricity network that is future proof. In the process, it invests in new technologies and projects which contribute to a green energy supply. This includes the expansion of offshore wind parks, the development of smart networks and the integration of renewable energy sources in the electricity grid. ››

The Moonfish

Picture: ANP

The work that needed to be done at the beach of Wijk aan Zee is part of a major project. The electricity cables have a diameter of 25 centimeters and had to be buried six to eight meters deep into the ground, where they made a transition from the ocean to a pipe casing. Each cable was pulled into a PE d800 casing pipe. This pipe was only needed ashore and was this large to regulate thermal expansion and provide enough space for the pulling of the cables and future maintenance.

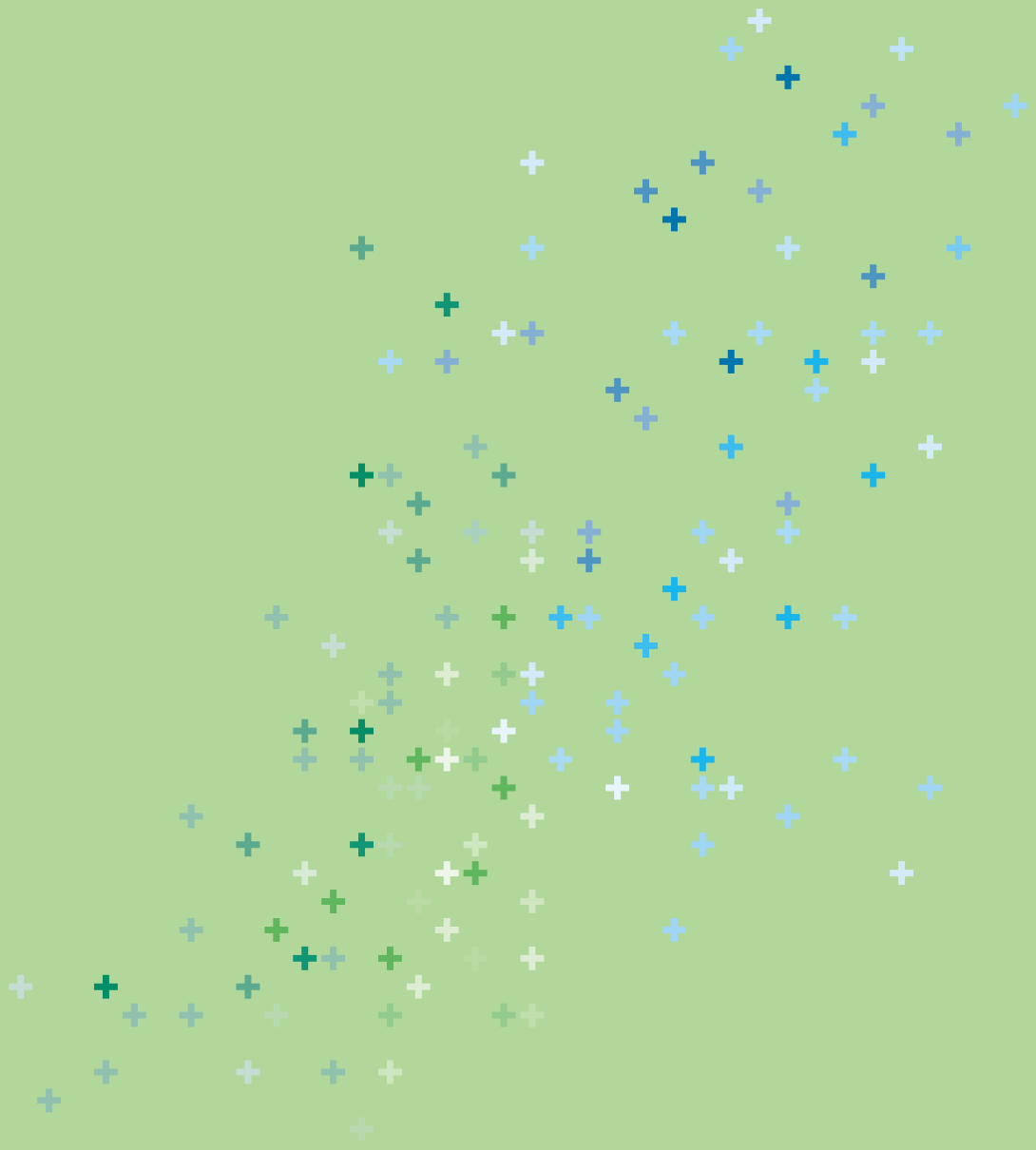
HDD drilling as the perfect solution

A casing pipe was installed by creating a horizontal drill hole of approximately one kilometer in length in the ground, using HDD drilling (Horizontal Directional Drilling). This was done by contractor Van Vulpen, which is part of the NRG-Group. After the cables were pulled to land from the ocean, into the casing tubes, these pipes were sealed off with a cover plate. The plate consists of two parts, it has a hole for the cable to go through and contains a rubber sealing. This way the pipe casing was closed properly to keep out the sand.

Picture: ANP

Before the engineers closed off the pipe definitively, a type of funnel was used at the end of the casing tube, during activities, to protect the construction against damage. Normally, they weld a PE stub flange with a backing flange to the PE casing pipe. However, delivery time was too long. As an alternative, MULTI/JOINT® was chosen. Normally, MULTI/JOINT® is used in water and gas piping systems. However, the fitting is a jack of all trades and turned out to be a quick and versatile solution for this project as well. The benefit of this DN800 MULTI/JOINT® flange fitting, was that the funnel was easily connected to the flange, saving valuable time for the engineers. Thanks to the fitting being wide range and restraint, no thrust blocks were needed. The installation went fast and smooth because of it. At the end, the cover plate was installed onto the flange fitting, making the MULTI/JOINT® not only quick, but multifunctional to work with as well. The installers were glad with the solution MULTI/JOINT® was able to offer and noted that they will not hesitate to use it more often in the future. ■

Near Wijk aan Zee - The Netherlands



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