



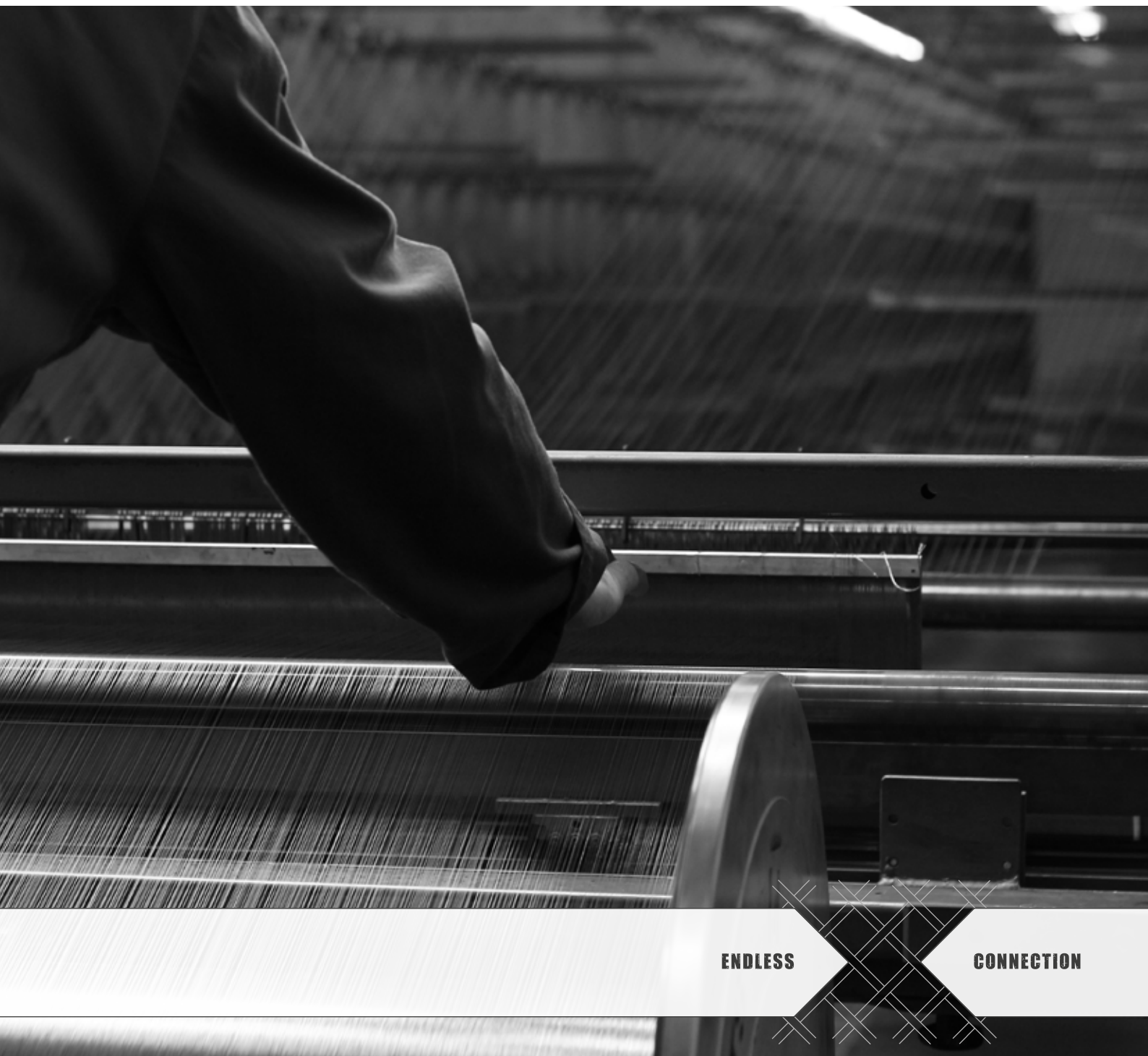
WIRE WEAVING
DINXPERLO

CONNECT

MAGAZINE

02

October 2016



ENDLESS

CONNECTION

06 OUR PROFESSION

Calculation, set up,
beaming and threading

08 OUR CONNECTION WITH...

...the filter industry

10 WARP & WEFT BY...

...Marcel Veldhuis,
QHSE manager



ONE HUNDRED YEARS OF WIRE MESH EXPERTISE

Wire Weaving Dinxperlo is your partner for high-grade wire mesh products – whether you need a fine-meshed wire filter for an industrial application, welded flower mesh for horticultural industry or woven designer mesh for an exclusive building façade. We've been producing a wide range of wire mesh solutions for customers around the world since 1917.

ENDLESS CONNECTION

We love to connect. Whether it concerns connecting with people, connecting with customers or simply connecting wire! We seek long-lasting connections that our customers can rely on!

We're already well connected in the following sectors:

- horticulture
- design
- construction
- burners
- aviaries
- EMI/RFI shielding
- filtration
- machine construction
- oil and gas
- screen printing
- shipbuilding
- packaging
- automotive
- food industry
- chemicals

Anholtseweg 18
7091 HA Dinxperlo
The Netherlands

T : +31 (0)315 65 98 00
I : www.wireweaving.com
E : dinxperlo@wireweaving.com

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CONNECTION



FOREWORD

Continuous development



This is the second edition of our Connect magazine, which we release every six months to inform you about everything going on in and around our factory and sector. And we can already reveal: a lot is going on!

We are continuously developing. For example, in the filter industry, where we collaborate with water treatment specialist Hubert to create filters that are more compatible with strict requirements for nuclear applications. This is an innovative, intensive and particularly interesting undertaking! The interview with QHSE manager Marcel Veldhuis tells you more about the quality of our products, the openness of our organisation and particularly the manageability of our business process, which led to Hubert joining us in this challenge.

Page 6 of this Connect magazine continues our series entitled 'our profession', which involves highlighting another step in our production process. The first edition featured information about how our metal wires are produced, while this edition focuses on beaming and threading the wire in the loom. This is a specialised task, although our employees will be pleased to inform you about the finer (and rougher) details!

We want to use this magazine to express exactly how much passion, energy, innovation and craftsmanship goes into creating our products. We have also devised a new concept to showcase the beauty of wire mesh outside our sector - 'Wired People'. The 'Wired People' brand now allows us to introduce our artisanal woven products to offices and living rooms as industrial decoration. You can read more about this exciting design adventure on page 5 and at www.wiredpeople.nl

We want to use this magazine to offer you a nice mix of articles and hope you thoroughly enjoy reading!

Yours,
Puck van Holsteijn
COO Wire Weaving Dinxperlo

CONTENTS

04 LIVE WIRE!

06 OUR PROFESSION

Calculation, set up, beaming, threading

08 OUR CONNECTION WITH...

...the filter industry

10 WARP & WEFT BY...

...Marcel Veldhuis, QHSE manager

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Wire Weaving Dinxperlo

Anholtseweg 18, 7091 HA Dinxperlo, The Netherlands
T : +31 (0)315 65 98 00
I : www.wireweaving.com
E : dinxperlo@wireweaving.com

Chief Editors

Puck van Holsteijn (Wire Weaving Dinxperlo)
Berdien Lansink (Wire Weaving Dinxperlo)
Luuk Hoopman (Wire Weaving Dinxperlo)
Sandra Heusinkveld (Wire Weaving Dinxperlo)

Editing & Design

Profilers Communicatie, Doetinchem

Printing

Drukkerij Westerlaan, Lichtenvoorde

Photography

Wire Weaving Dinxperlo

Address Changes & Subscriptions

dinxperlo@wireweaving.com

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LIVE WIRE!

Filtech

As announced in the previous edition of this magazine, our filter innovations can be found at the Filtech trade fair in Cologne (Germany) on 11, 12 and 13 October! You can find our woven and welded (filter) mesh at stand C15 in hall 11.1. We will also be presenting filters and sieves that we co-produce in-house together with our customers. Naturally, our product specialists will also be at the stand to offer you comprehensive information about the possibilities for your specific application. We look forward to seeing you at the trade fair in Germany!

www.filtech.de



Techtextil

Techtextil is another trade fair held in Germany and features everything relating to modern textile technologies. Our stand will showcase our possibilities and innovations in the field of fine metal weaving. The trade fair, which has the theme 'Connecting the future', will be held between 9 and 12 May 2017 in Frankfurt am Main, so make a note of this date in your agenda.

www.techtextil.messefrankfurt.com

techtextil

Traditional craftsmanship and hyper-modern technologies

Our organisation is renowned for its loyal personnel. Employees have often worked at Wire Weaving Dinxperlo from one generation to the next. This gives us a solid knowledge platform and allows us to combine our hyper-modern technologies with the industrial craftsmanship in our products. Innovation is an important factor for us. That is why many departments regularly perform interesting study projects, often via our InnoDinx Innovation hub. This is not only extremely educational for interns, but the fresh visions, ideas and findings of students often also inspire us to create appealing new innovations! Innovations that also benefit you!

www.innovatiehub.com



ISO 9001:2015, NEN and ASTM

More and more companies are relying on wire mesh from our factory when it comes to well-constructed buildings, safe cars, efficient industrial processes and many other applications. We thus place great emphasis on offering consistent quality of the very highest level. The quality management system we use to constantly perform critical tests on our raw materials, processes and end products has been ISO certified for many years. In May of this year, we upgraded our ISO 9001:2008 certificate for the new ISO 9001:2015 certificate, which is more specifically dedicated to our specialisation. In addition, our products also comply with (inter)national NEN and ASTM norms. Quality you can count on!

www.wireweaving.com

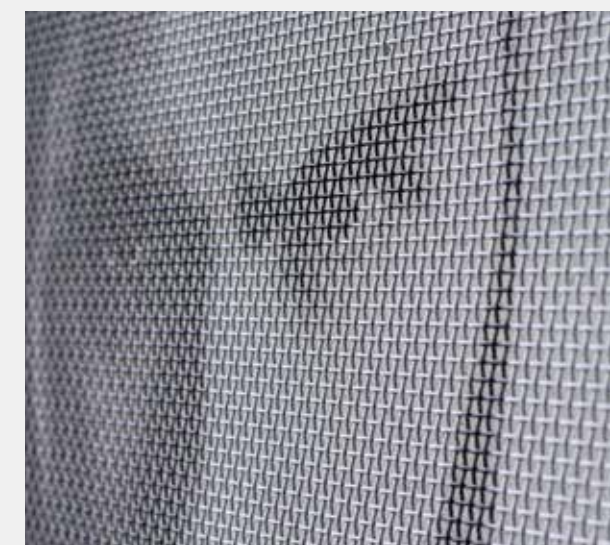


Wired People

This magazine shows exactly how much passion, energy, innovation and craftsmanship goes into creating our products. As a result, we believe wire mesh is more than just a high-quality functional product. Our artisanal woven products also have aesthetic appeal! In order to introduce them to people outside the sector, in September we decided to launch a new brand called 'Wired People': wire mesh as industrial home decoration. Wired People allows our products to be used in living rooms, offices, showrooms and company canteens as rugged design statements!



The first product to be launched under the Wired People brand involves using wire mesh as wall decoration. You can deliver your own photo, logo or artwork via www.wiredpeople.nl, which we can then print on our wire mesh in high quality. Because the wire mesh is coarse woven, the original wall remains partially visible through the panel. This means the colour and texture of the interior also becomes part of the creation. From a distance, these wire mesh designs look like rugged design photos on the wall. When in close proximity, the image becomes more abstract and the stunning woven details in the material become visible. Photos and text thus become industrial works of art! Please visit www.wiredpeople.nl and feel free to tell us what you think about our initiative! www.wiredpeople.nl



OUR PROFESSION

CALCULATION, SET UP, BEAMING, THREADING

The first edition of Connect Magazine told you about a key component in all our wire mesh: the wire. In every edition, the “our profession” section will take you a step further in the production process. Today you will hear from the guys of the beaming department; where metal wire is prepared for weaving.

Down to earth professionals

No less than 114 years of winding experience is represented at the workbench where the interview is being conducted. “Yeah, I enjoy it here”, says winding processor Fredy when asked about the atmosphere in the department. His two colleagues, Bennie and Hans, nod in agreement and gaze at us willingly as they await the next question about their work.

Preparation for the weaving department

When we talk in detail about the work carried out by the three colleagues, it becomes apparent that they have worked together intensively for many years. They finish each other's sentences and point to each other when it comes to answering questions about specialist subjects. Hans summarises the team's job in two sentences: “We make preparations for the weaving department. We place wire spools on a rack and then place the wire on the warpbeam, which will later be used for weaving purposes.”

Effective beaming is half the job

Fredy says that beaming is taken very seriously at Wire Weaving Dinxperlo: “When I first applied for a job here, they told me that it was an important task when producing wire mesh. And that's exactly how I see things now. If we do not do things properly, e.g. by packing wire that is too thick, then the wrong wire will be woven into the end product. And that's something you will always notice.” To make sure that only the very best quality is sent to the weavers, the winding process starts by inspecting wire that will be used in the end product.



Quality versus speed

The winding processors have seen wire quality increase over the years and, due to their own actions, also seen their process become a lot more practical. Hans: “In the past, machines only had one speed. In order to better manage the production process, we personally proposed working with frequency regulators. They have now been introduced everywhere. Based on our feeling for the product, we are now trying to find the most effective setting, which will allow us to work faster while continuing to supply the same top quality.” “Because, as far as we're concerned, quality always comes before speed”, he adds as his colleagues nod in agreement.”

Warping and wefting

Each of the three winding processors has his own machine in the department. Bennie: “Of course, even though we have our own specialisations, we are familiar with one another's machines and can help out if necessary. For instance, Hans and Fredy work with wefting machines, which wrap wire around spools directly from the spool. But I work on a warping machine, which requires a little bit more attention. Warping involves realising the desired weave size on multiple strips next to each other. This extra step means warping can be used to wind up to 16,000 wires.”

Threading

Now that the rougher work has been completed, the heavy spools can be supplied to the women in the department, so the finer work can take place, namely threading. This involves one or two women carefully threading the wires into the small holes in the healds and the reed. In this case, the reed determines the required weave distance. After threading the wires, the weaving machine is ready for the next step in the production process: weaving. You can read more about this in the next edition of ConnectMagazine.

1 Calculation

Using details on the production order, the first step involves working out the most efficient way to wind the wire needed for the weaving project.

2 Set-up

The wire spools are then set up in the winding rack. About 480 up to 900 spools are placed for warping.

3 Inspection

The supplied spools are then critically inspected to check the thickness of the wire.

4 Beaming

Wires are wrapped evenly around the warpbeam from the spools.

5 Threading

The wires are carefully strung through the healds and the reed. The machine is now ready for the start of the weaving process.



OUR CONNECTION WITH... ...THE FILTER INDUSTRY

You will find our mesh all over the world - in cars, ships, buildings, machines, zoos, greenhouses and even sports settings. In each edition of 'Our Connection with...', we'll be putting a particular wire-mesh application in the spotlight. This edition tells you more about the filter industry, namely how mesh is used in water processing plants!

In Use

Clean water is essential for nuclear reactors. Each day, hundreds of thousands of cubic metres is added to continuously cool power plants. Screens sieve the added water so it enters the plant in the required quantity and with the required quality. If the screens fail, the plant has to be shut down, which can have disastrous consequences for its performance. The nuclear sector is continuously developing in order to minimise the chance of failure. That is why water processing specialist Hubert has been collaborating with Wire Weaving Dinxperlo for many years, in order to develop filter solutions at meet strict requirements encountered in nuclear applications.

The partnership

Wybren de Boer, site manager at Hubert: "A competitive price is often an important selection criterion for standard filter applications. Because we are ISO certified, we are constantly developing new quoting processes, and this has involved regularly working with Dinxperlo over the past couple of decades. When it comes to customer-specific assignments that require extra knowledge, like our project in the French nuclear industry, emphasis is placed on realising demonstrable product quality and exploiting opportunities for open partnerships. We started by selecting several companies and thoroughly screened them. After the evaluation, we selected Dinxperlo."

The requirements

Since 2013, the two Dutch companies have been collaborating intensively for the same French customer. This co-makership arrangement was used to develop a drum screen with a diameter of 22 metres, which complies with various strict requirements. For instance, the mesh maynot deform under high pressure and the stainless steel maynot come into contact with iron during the production process, so corrosion is excluded. Wybren: "This requires a partnership with an experienced company, which is also prepared to dedicate time and energy to joint development." The developed panels are thoroughly tested using the testing facilities in Stavoren. Wybren: "Wire Weaving Dinxperlo is a specialist when it comes to testing and inspection plans. The partnership allows us to learn a lot from one another. It is an interesting process, which results in effective solutions for the customer."

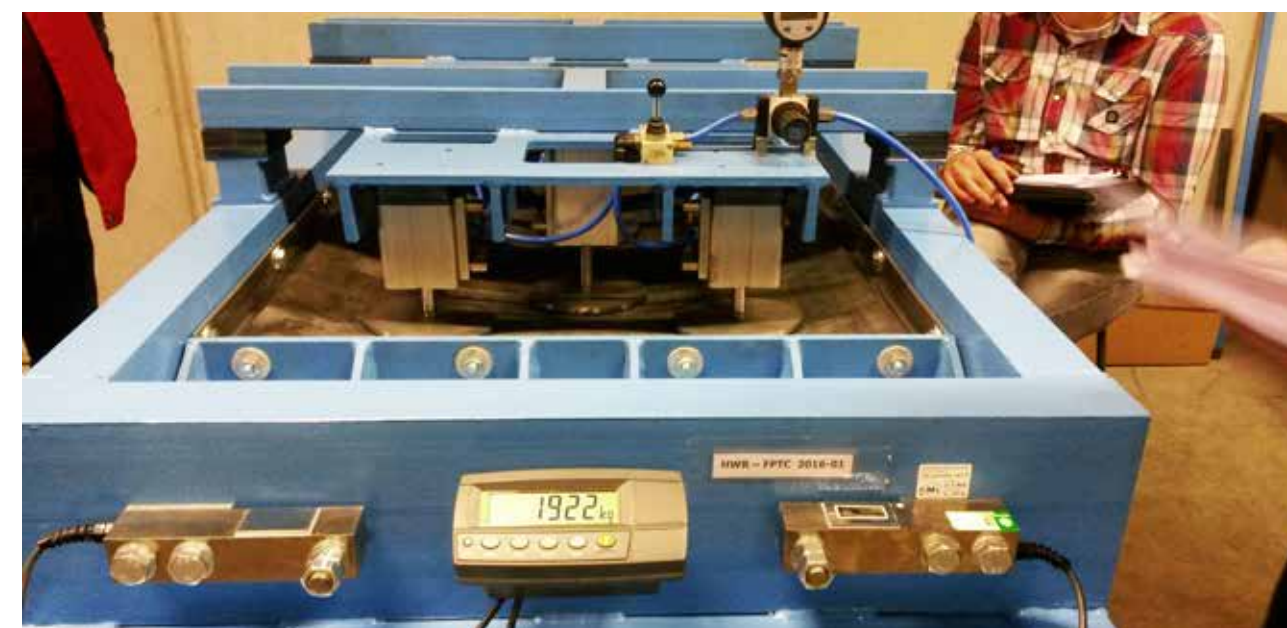
*Technical inspection on chemical
proposition of filter mesh.*

The specifications

The used mesh has a mesh size of 3 millimetres, complies with very high standards and has very low tolerances. Each step in the production process is carefully monitored and accurately registered. Wybren: "Traceability is very important in such projects. We must be able to trace each step and be able to confirm that the material has never come into contact with iron, because iron has a highly negative impact on the properties of high quality stainless steel in the installation. Manageability is an important principle for us. You must be able to collaborate in an open and solution-oriented manner when realising such processes. Wire Weaving Dinxperlo offers this openness, wants to learn and is prepared to invest, which allows you to achieve tangible results. In such projects, where the customer also shares our vision, we are given the freedom to take the project to the next level. And this allows us to raise standards, which is something we enjoy."



*Eric Coenders, engineer at Wire Weaving Dinxperlo (left), and
Jan Piet Zandbergen from Hubert with the test set-up in Stavoren.*



Water pressure test on filter mesh in the test set-up in Stavoren.

Our Connection with...

Hubert ↔ Wire Weaving Dinxperlo

Stavoren-based Hubert supplies a wide range of products, from small drum screen and band screen to complete water intake systems and water processing equipment. From its factory in Stavoren, the project-based company develops solutions for oil companies, energy companies, refineries and governments throughout the world. For many years, they have used the mesh produced by Wire Weaving Dinxperlo to manufacture screens for water purification systems and cooling-water intake systems used to filter surface water. After the success of this first joint assignment in the French nuclear sector, the duo hopes to establish a lasting partnership for the future.

WARP & WEFT BY...

...MARCEL VELDHUIS,

Customers, suppliers, employees, directors... everyone has his or her own perspective on Wire Weaving Dinxperlo. In each edition of 'Warp & Weft by...', we'll be taking a closer look at our company and product through the eyes of someone different. This time we will be examining the warp and weft of our company through the eyes of QHSE manager Marcel Veldhuis.

What does a QHSE manager actually do?

"QHSE stands for quality, health, safety and environment. I am responsible for the policy we implement in these areas at Wire Weaving Dinxperlo. One moment I am working with the engineering team to look for potential improvements in the production process, and the next moment I am helping an intern who is performing an analysis for our ISO 14001 certification. My job also involves visiting customers and suppliers. In fact, I have the best job in the whole company!"

Quality is a broad concept. What does it mean to you?

"Quality means delivering precisely what the customer wants. For some customers, mesh produced using wire with low tensile strength is the perfect product, while other customers need the same product, but with wire featuring high tensile strength. If you are able to flexibly respond in this manner for each customer, then you are on the right track!"

After a hundred years, have your mesh development possibilities not been exhausted?

"The expertise and experience in our engineering, filter, beaming and weaving departments have long since made Wire Weaving Dinxperlo a renowned name in our market. But this position does not cause us to be satisfied and rest on our laurels. There is always room for improvement; whether that be minor tweaks in the production process, better raw materials, innovative inspection methods, a reduction in errors or an increase in safety! The activities of the quality control department keep us focused and mean we remain critical and are always looking to improve. And this is a never-ending process!"

How do you safeguard the quality of your suppliers?

"Of course, the quality of our end product is determined by the raw materials we purchase. That is why we only start using a product once we know exactly what we are dealing with.

QHSE MANAGER



We first investigate whether we have received exactly what we ordered. We inspect the mechanical and chemical proposition of materials and even scan for potential radioactivity. The findings are then compared with the documents and analysis certificates of our suppliers and then registered in our system, so we always know what each product actually contains. And should there ever be a problem with one of the materials we buy, we can always trace products containing the material in question."

Are inspections also carried out during the production process?

"Each step of our production processes is inspected. In the wire drawing department, we measure the thickness of wire we have drawn. The same is done during the winding process where we also check for potential wire defects. In the weaving department, the person who configures the machine follows a whole inspection process, after which random checks are also performed by the weaver. The latter also registers whether the width of the material and the number of weft threads are correct. We then, if required, proceed to the powder-coating process, where an inspection check-list featuring the required specifications is used. Finally, the forwarding department checks whether the end product complies with our norms. As you can see, each production step is followed by an inspection - this allows us to make a real difference!"

But is this all not a little bureaucratic?

"Not just me, but the whole team takes these inspections very seriously. The benefits of inspections are two-fold. We safeguard the quality of the end product, while also continuously looking for improvements. If the wire in the wire drawing department increases in thickness, this means it is time to replace the wire drawing dies. If something always goes wrong at the same point, we are able to localise the machine and make improvements. We are thus always trying to optimise our process. For example, we recently reduced the number of wire failures by 90% by mapping out the whole process. This means inspections stop being arduous routines, and become an effective way for you to improve your process! And that is great for everyone!"

Are you also inspected by external bodies?

"Yes, regularly. Besides the audits carried out by e.g. ISO, customers also regularly visit Dinxperlo to assess our production process. And that's something we wholeheartedly welcome. Such audits are standard practice really, particularly in the automotive sector, which is a front-runner in technological developments. This keeps us focused and allows us to become even better. This openness is very important. We promise our customers quality. And if we cannot deliver this promise in practice, this will always be noticeable when products are processed. This is in no one's best interest. Not only do we give customers an opportunity to assess us, but we also actively look for such opportunities. I recently encountered a company with the same level of openness as us. We have now agreed to audit one another's production processes. This will allow us both to become smarter and come up with fresh ideas that benefit both of us!"

What else inspires you to make improvements?

"I like working with students. We actually learn a lot from them! But they learn a lot from us too. Students studying Integral Safety Sciences made a very valuable contribution recently. Some of their latest projects involve defining a risk inventory, establishing a safety group for improving machine safety and various processes for ISO-14001 certification, which we expect to complete in 2017. We do not see interns as temporary workers who are assigned to jobs other people don't want to do. We are a company that offers a lot of freedom to truly motivated students. If interns have an idea, they are given the opportunity to test it out. For instance, last year, four students developed a tool for testing welding strength. The solution turned out to be very effective and has helped to structurally improve quality. Wire Weaving Dinxperlo dares to give people a chance. That's one of the reasons why the company has an inspirational atmosphere and is always coming up with new innovations! This helps us as well as our customers!"





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DINXPERLO



Anholtseweg 18
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The Netherlands

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