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Analysis of Tantec webpage traffic regarding user interaction with videos

Internship project

1. Initial considerations and situation

Founded in 1974, the Tantec group is a leading manufacturer of standard and customized plasma and corona systems for surface treatment of plastics and metals with the purpose of enhancing adhesion properties. With optimal adhesion properties, industrial producers are able to effectively print, ink or stamp their logos or other essential print onto their products without the use of environmentally damaging chemicals. Instead, innovate use of plasma etching technology ensures a more cost-effective, environment-friendly, and easily integrated solution for most, if not all production needs dealing with adhesion problems.

With partners and agents in 30 countries, and headquarters in Lunderskov, Denmark, Tantec has more than 40 years of experience in the industry.

Nioba ApS has been working with Tantec's online platform, SEO and paid advertisement efforts for XX years, and has in that vein found it useful to track the activity on the Tantec's US website, specifically to enhance communicative ability and to encourage user interaction on the site.

To aid in the distribution of information about their products, Tantec has invested in professionally produced videos, which are publicly available on their YouTube channel, and liberally placed on relevant pages on the websites.

It is the purpose of the videos produced by Tantec to inform and promote their brand through effective visual media – an activity which Nioba is ultimately interested in measuring and analysing. Ultimately, the conclusions drawn from the tracking of the videos will aid in future marketing endeavours and considerations and will additionally help Tantec gage the focus of the user interaction.

2. Needs and requirements

This information is required when tracking the interaction of the videos:

- Which page path (page on the website) does the video exist in?
- When are the videos played?
- Which videos are played?
- Which videos are played the most, and which the least?
- How many users interact with the videos?
- How often are the videos played?
- How much of the videos are played?
- Is there a clear correlation between page popularity and video interaction?
 - o Which page performs best with their videos, taking page traffic into consideration?
 - o Increased number of leads/inquires coming from a certain page path or correlating with specific activity on a video or page path.

 Correlation between conference or fairs and the activity on certain pages, and the corresponding videos on said pages.

Broadly, the areas are required to be investigated, and ideally all these questions will be answered. Due to lack of substantial time to observe the effect this tracking would have had, partly as a result of the coronavirus crisis, the correlation between conferences and video/page activity will not be effectively investigated. The resulting data studio report will, however, enable Tantec to measure the effect when said event does occur in the future.

3. Delimitation

Other tags were created to track the full scope of the activity on Tantec.com, but this report will deal solely with YouTube video activity, as that is what both Tantec and Nioba was most interested in investigating more closely. Therefore, there will only be details in the set-up of video-related tags and trigger configurations and analysis.

The content of the videos will not be discussed or examined due to irrelevance to this project, which main purpose is to track and analyze the factual situation of the activity generated by the videos.

An in-depth explanation of the generation of the final product, the Google Data Studio report will not be provided. The focus of this report will be on the data and the analysis the Google Data Studio report will contain, and not how the report itself was designed.

4. Objective

Preemptively, it has been determined that an **optimal** video will be categorized as:

- Watched often.
- Watched more than 25% of its duration.
- Watched by many users.

The objective of this report and analysis is to conclude upon the effectivity of the videos, and if they manage to convey the desired activity and corporate communication to the potential leads. The videos are part of an extensive branding strategy, and it is therefore paramount that the success or failure of their investment into this type of media is followed closely and readjusted as needed.

At last, this project will conclude with a data studio report on the video activity observed through XX period of time.

5. Methods and programs

The following programs will be used as a part of this project:

5.1 Google Analytics

Google Analytics is a free Google service used for online tracking of other Google medias and websites containing a Google Analytics Tag for identification and validation. Through Google Analytics, companies and private persons are capable of tracking website traffic, demographics, events – as well as Google Ads and Data Studio activity. It is often used in tandem with the aforementioned Google programs to track conversions and to observe changes in user behavior.

5.2 Google Tag Manager

Google Tag Manager is also a free Google service, used primarily as a program in which several tags (such as Google Analytics or Facebook Pixels) can be managed effectively in a single space, eliminating the need to place several scripts onto a website. Using a Tag Manager, the administrator of the website need only place the Google Tag Manager script into the header and body tags of their website, after which Google Tag Manager handles any other scripts that one might need for tracking purposes. Google Tag manager supports many Google and 3rd party tag configurations.

This Google service was used to produce the event triggers and tags, which tracked the video activity on the Tantec US website.

5.3 Google Data Studio

As mentioned in section 3, Google Data Studio will be used to produce the final product that Tantec will use henceforth to track the activity of their videos' activity on their website. A separate page on the report will be dedicated to their videos' activity on YouTube, but this the objective of this report specifically will center only on the activity observed on the videos embedded on the website. A Data Studio report is dynamic and customizable according to predefined metrics, such as date, country, devices, etc.

Further methods:

The source code making up the website was closely read using the inspect tool to accurately select the elements meant to be tracked through Google Tag Manager.

5.2 Setup

Tantec's various online presences are linked to Google Analytics – in this case, the US website (Tantec.com) is in focus. Any tracked event of interest is visible there if tags are set up and fired correctly. Whether the relevant data appears in the Google Analytics account or not will be used as a manner of testing the functionality of the tracking measures in real time.

Google Tag Manager has specific conditions available to track YouTube videos, likely due to the streaming service being another Google Product – along with YouTube Analytics. Examining the WordPress code setup, it is clear that the videos are embedded using links from the Tantec YouTube cannel, and not as video files (MP4). Because they are YouTube links, regular link click tracking was not used, and the trigger type designed for YouTube video links was used instead, as that should conceivably work more precisely for this type of link.

The video tracking was enabled 4/16/2020 and was published in a new version after testing.

5.2.1 Variables

At the very least, these variables should be selected in Google Tag Manager:

- Click Classes
- Click Element
- Click ID
- Click Text
- Click URL
- Event
- Page Hostname

- Page Path
- Page URL
- Referrer
- Video Duration
- Video Title
- Video URL

The variables are used when creating triggers and tags. First by defining the filter (event conditions) of a trigger, and then for determining the desired output we want returned when a tag is activated/fired.

The variables are also relevant when in preview mode, as the information we can view inside the preview window in the bottom of the webpage depends on the pre-established variables we have selected for the Google Tag Manager account.

In this case, the last three video variables: Video Duration, Video Title and Video URL are the most relevant, as they are directly concerning YouTube video tracking. Additionally, the Page Path is/can be utilized for detailing which exact page on the website an event occurred.

Every other event is tracked using conditions defined using the other variables on the list (with many more options available in Google Tag Manager).

5.2.2 Trigger

A trigger can be created before, or immediately following the creation of a tag. However, a tag cannot fire without knowing when and where, which is why it is practical to create the trigger first and connect them followingly.

A trigger is composed of a configuration and a filter. This process will be explained by demonstrating the setup of the YouTube Video Trigger, which will fire when a video has been clicked on and/or has commenced playing.

5.2.2.1 Trigger configuration

Name: YouTube Video Click Trigger

Trigger type: YouTube Video

Capture: Start & Complete

The trigger will fire when a video is started or completed, but will not fire when paused, seeking, buffering, or triggered according to progress.

Advanced: Add JavaScript API support to all YouTube videos.

This is a requisitive query parameter. Enabling this will automatically check if the add the messing parameter to the YouTube videos on the pages. It will also cause the video to reload if it is already playing when the tag fires.

Enable this trigger on: DOM ready (gtm.dom)

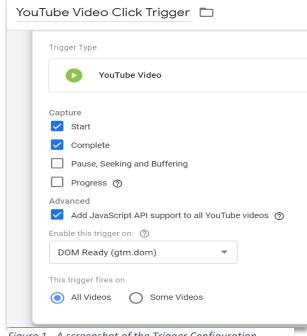


Figure 1 - A screenshot of the Trigger Configuration

(Term: DOM stands for Document Object Model, and enabling the tracking on 'DOM ready' means that this trigger should start listening for relevant interactions as soon as the DOM is parsed, and the initial content on the page has loaded.)

This trigger fires on (event conditions): All videos

It is possible to track specific videos on the site if desired, but in this case, every single video is of interest, as a comparative analysis of the overall activity is the goal.

A screenshot of the final trigger configuration is visible in *figure 1*.

5.2.2.2 Tag configuration

Name: YouTube Video Play

Tag Type: Google Analytics: Universal Analytics

This tag type means that the gathered data will be tracked through Google Analytics and will appear on the platform, observable in real time or in accordance with a custom date range. An overview of the data is best seen in the report 'Behaviors' – 'Events' – 'Overview.'

Track Type: Event

Labelling the track type as an event ensures that the data appears under 'Events' in Google Analytics, and that it is tracked as such.

Category: Video

It is possible to customize categories in Google Tag Manager according to wish, which will then appear in Google Analytics in the desired category. If multiple tags have been designated the same exact categorical name, the data will appear under the same category in Google Analytics. Assigning categories aids in separating the data for simple overview.

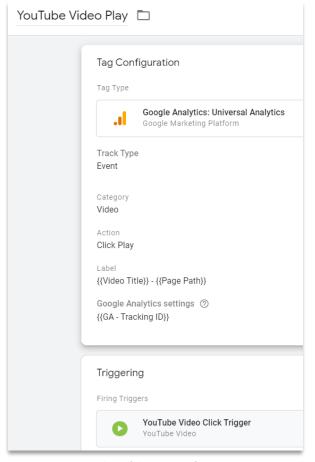


Figure 2 - A screenshot of the Tag Configuration

Action: Click Play

Similarly, as with the category, an action is assigned for more easily separated date – in this case, in accordance to which type of action was performed by the user when the event triggered/fired the tag. The action is also customizable and appears as written in Google Analytics.

Label: {{Video Title}} – {{Page Path}}

These labels are variables, as listed in section 4.1.1. They produce the video title and page path, respectively. Assigning them as labels provides this information when the event data is visible in Google Analytics. Tag Manager does not provide a particularly effective method of assigning multiple labels with good separation, which is why the '-' line is inserted to divide the data. This is illustrated in the screenshot featured in *figure 3*.

Example: RotoTEC-X - Corona Treatment of Spray Containers - /the-basics-of-corona-treatment.html
Figure 3 - Google Analytics extract from Tantec.com's event overview

Tantec and Nioba were both interested in knowing which videos were played and on which page they were played on. These labels were chosen with that goal in mind.

Google Analytics settings: {{Tantec's Google Analytics tracking ID}}

A tracking ID is needed to connect the correct Google Analytics account to Google Tag Manager. A custom variable is made, after which the connection is made by selecting it when creating a tag.

Lastly, the aforementioned and described trigger 'YouTube Video Click Trigger' is attached under Firing Triggers, enabling this tag to fire only when the conditions for the trigger are made.

A screenshot of the final tag configuration is visible in figure 2.

5.3 Testing and debugging

5.3.1 Preview Testing

When the tag is connected to the trigger, it is time to test the event conditions and their willingness to fire as specified. In the Workspace area of Google Tag Manager, there is the option to enter 'Preview' mode, which allows one to enter the relevant website with the ability to debug and test the tags.

Once on the website, the preview mode causes a window to appear in the bottom of the page, as shown in *figure 4*. This window shows which actions have occurred prior to and since the loading of the page, as well as which tags have been made, and in relation to that, which ones have fired, and which ones have not.

When clicking a YouTube video, the tag YouTube Video Play should pop up as a fired/activated tag. If it does not, then the tag failed to track the activity, meaning it was made incorrectly or something onsite prevented it from happening.

One such thing, which have been observed on another

 \leftarrow \rightarrow \mathbf{C} $\hat{\mathbf{a}}$ tantec.com/tantec-products.html ## Apps G Google YOUR INDUSTRY -TANTEC -PRODUCTS -ProfileTEC - EPDM profiles with plasma treatm Tag Manager Tags Summary Tags Fired YouTube Video 4 Click 3 Window Loaded 2 DOM Ready YouTube Video Play Bing Ads UET TAG 1 Container Loaded

Figure 4 - A screenshot of Preview mode

site, could be outdated YouTube links failing to properly work in tandem with the build-in variables of Google Tag Manager. To fix this, new and updated links to the videos should be inserted.

After a few changes of the initial tag configuration (due to a later revaluation of the objective), the versions shown in *figures 1 ,2 and 3* succeeded in properly tracking the video clicks.

5.3.2 Google Analytics Testing

When the tag is correctly configured in Google Tag Manager, and fires when specified when viewed in preview mode, the data should also appear in real-time in Google Analytics, dependent on a correctly established connection. If Google Tag Manager and Analytics is correctly connected, and a user clicks on a video on the site, the event type (video) and the corresponding action should present as shown in figure 5.



Figure 5 - A screenshot of Google Analytics events during real-time tracking

A complete data range of past event occurrences is, as previously mentioned, available under the behavior tab in Google Analytics. The real-time tracking is useful mainly for determining if newly configured tags works correctly.

In this case, the tag/tags worked as intended, and started tracking the activity immediately.

5.4 Other relevant tags

Other relevant tags include:

- E-mail tracking: A tag which reacts to clicks on e-mail links, tracking whenever a user on the site clicks on the links and opens an e-mail window. This tag provides which page the user was on when they clicked the link, as well as specifically which e-mail was clicked. The tag cannot track if an e-mail was sent, however.
- Phone number tracking: A tag which fires when a phone number link was clicked. Similarly, to the e-mail tag, this tag provides which page it was clicked, and which number, but not whether a call was ultimately made, or how long it lasted.
- Brochure button click tracking: A tag which fires when a button linking to a brochure is clicked. This tag will say which page it was clicked on, and which URL was attached to the clicked element.

6. Data

The chosen data-range for the data collected in table 1 is 24th of May 2020 to 22nd of June 2020.

Page	Nr. of video clicks
/the-basics-of-plasma-treatment.html	333
/the-basics-of-corona-treatment.html	227
/atmospheric-plasma-plasmatec-x-highly-improved-features.html	85
/tantec-products.html	68
/what-is-surface-treatment.html	51
/high-frequency-spot-system-spottec.html	49
/adhesion-and-surface-treatment-of-plastic.html	49

/plastic-products-treated-with-corona-treatment-rototec-x.html	40
/surface-treatment-of-metals.html	36
/index.php	36

Table 1 - Top ten pages with the highest nr. of video clicks recorded within the last month

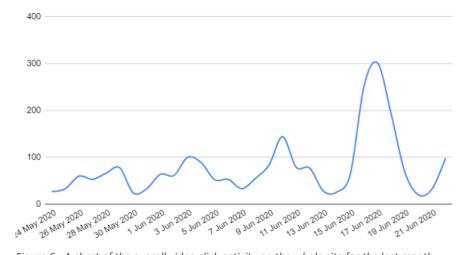


Figure 6 - A chart of the overall video click activity on the whole site for the last month

	Video title	Page path	Clicks
1	RotoTEC-X - Corona Treatment of Spray Containers	/the-basics-of-corona-treatment.html	402
2	VacuTEC GoPro inside vacuum chamber	/the-basics-of-plasma-treatment.html	322
3	Cable and Pipe Surface Treament Tantec	/atmospheric-plasma-plasmatec-x-highly- improved-features.html	166
4	ProfileTEC - Plasma Treatment	/the-basics-of-plasma-treatment.html	143
5	Tantec RotoTEC-X Corona Treatment System	/atmospheric-plasma-plasmatec-x-highly- improved-features.html	88
6	PlasmaTEC-X	/atmospheric-plasma-plasmatec-x-highly- improved-features.html	78
7	Tantec FoamTEC Corona treatment of foam and board	/atmospheric-plasma-plasmatec-x-highly- improved-features.html	76
8	ProfileTEC - EPDM profiles with plasma treatment	/tantec-products.html	68
9	Cable and Pipe Surface Treament Tantec	/what-is-surface-treatment.html	66
10	Cable and Pipe Surface Treament Tantec	/high-frequency-spot-system-spottec.html	64
11	Tantec RotoTEC-X Corona Treatment System	/adhesion-and-surface-treatment-of-plastic.html	63
12	Tantec RotoTEC-X Corona Treatment System	/plastic-products-treated-with-corona- treatment-rototec-x.html	56
13	Surface Treatment with PlasmaTEC-X for the packaging industry	/surface-treatment-of-metals.html	56
14	ProfileTEC - EPDM profiles with plasma treatment	/atmospheric-plasma-plasmatec-x-highly- improved-features.html	55

15	Tantec VacuLAB	/plasma-treat-unit-lab-testing-and-minor-	45	l
		production-vaculab.html		l

Table 2 - Top 15 videos with the most clicks within the past month with page path

7. Fvaluation

As the chosen date range for the data presented in the report is **24**th of **May 2020** to **22**nd of **June 2020**, it is worth noting that these numbers differ from previous months significantly, especially since Tantec deals with a product containing the word 'corona,' which unsurprisingly brought a lot of irrelevant traffic to their pages. The traffic has since normalized, and this date range was chosen for this reason.

According to table 2, the video that attracted the most clicks was *RotoTEC-X - Corona Treatment of Spray Containers*, which exists on the page path /the-basics-of-corona-treatment.html.

Comparing this to the total number of page views as shown in *figure 7*, it stands to reason that the corona pandemic may have resulted in more video clicks on the page containing the keywords 'corona treatment,' despite the fact that the top most viewed page is about plasma treatment. This is conjecture, however, since the page /the-basics-of-corona-treatment.html usually attracts a lot of relevant traffic to the site.

Page ①			Page Views ? ↓	Unique Page Views		
			13,938 % of Total: 100.00% (13,938)	11,567 % of Total: 100.00% (11,567)		
1. /index	c.php	æ	2,487 (17.84%)	1,912 (16.53%)		
2. /the-b	asics-of-plasma-treatment.html	æ	2,290 (16.43%)	1,908 (16.50%)		
3. /the-b	pasics-of-corona-treatment.html	æ	1,017 (7.30%)	866 (7.49%)		
4. /tante	ec-products.html	æ	892 (6.40%)	673 (5.82%		
5. /what	-is-surface-treatment.html	æ	474 (3.40%)	392 (3.39%		
6. /surfa	ace-treatment-of-metals.html	P	367 (2.63%)	327 (2.83%		
7. /atmo	ospheric-plasma-plasmatec-x-highly-improved-features.html	P	352 (2.53%)	267 (2.31%		
8. /coro	na-treaters.html	P	322 (2.31%)	278 (2.40%)		
9. /dyne	-test-measuring-surface-energy.html	ø	302 (2.17%)	263 (2.27%		
10. /the-p	rocess-of-plasma-etching.html	P	285 (2.04%)	261 (2.26%		

Figure 7 - A screenshot of Google Analytics table of most viewed pages on Tantec.com

8. Post-analysis changes

After evaluating the information gathered, it was decided the 3rd of June 2020 another tag was necessary to optimize the tracking. It was concluded that merely recording which videos were watched did not necessarily present an accurate picture of the situation, as it was not possible to see how much of a video was played – only that it had been clicked.

Therefore, the definition of a quality video was redefined to: "watched often and watched for more than 25% of the play time. "

Another tag was made to gather this information.

8.1 25% progress tag and data

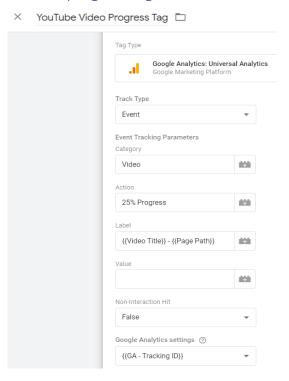


Figure 8 - A screenshot of the Progress Tag configuration

YouTube Video Click Progress Trigger 🗀 Trigger Type YouTube Video Capture Start Complete Pause, Seeking and Buffering ✓ Progress ② Percentages percent 25 Time Thresholds ✓ Add JavaScript API support to all YouTube videos ② Enable this trigger on: 💿 DOM Ready (gtm.dom) This triager fires on

Figure 9 - A screenshot of the Progress Trigger configuration

After configuring, testing, and initializing the progress tag (shown in *figures 8 and 9*), Google Analytics could now present which videos were played more the 25 % of their total playtime. This tag does and would not

fire when a video was clicked, and only tracks video play progress in percentage. Similarly, the video title and page path were desired data in relation to this event tracking.

Since activating this tag the 3rd of June 2020, 20.44% of the events on Tantec.com has comprised of videos being watched a minimum of 25% of their watch time, as seen in the screenshot in *figure 10*.

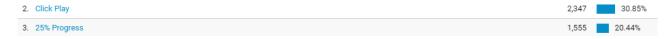


Figure 10 - A screenshot of total event percentages on Google Analytics

(The complete result of this tracking is visible in its entirety in section 10, figure 11.)

	Video title	Page path	
1	RotoTEC-X - Corona Treatment of Spray Containers	/the-basics-of-corona-treatment.html	281
2	VacuTEC GoPro inside vacuum chamber	/the-basics-of-plasma-treatment.html	200
3	Cable and Pipe Surface Treament Tantec	/atmospheric-plasma-plasmatec-x-highly-improved-features.html	166
4	Tantec RotoTEC-X Corona Treatment System	/atmospheric-plasma-plasmatec-x-highly-improved-features.html	88
5	5 ProfileTEC - Plasma Treatment /the-basics-of-plasma-treatment.html		86

Table 3 - Top 5 videos watched more than 25% since establishing the progress tag

9. Conclusion

Tantec's videos have been a substantial investment for the company and have therefore also been a matter of importance.

There is active, near-daily interaction on most of the videos on the site, and for the most part, these videos are placed on high-traffic pages with important keywords. This corresponds to expectations, though uncertainties related to the pandemic remains.

After reevaluating the objective and the video quality definition, it was determined that tracking the video progress was needed to accurately portray which video was, in actuality, the most viewed one. The conclusion, as shown in *table 3*, is that the video *RotoTEC-X - Corona Treatment of Spray Containers* on page /the-basics-of-corona-treatment.html has been the most watched video, as well as the most clicked video, in the date range of 24th of May 2020 to 22nd of June 2020.

Due to the dynamic fluctuations native to this kind of data, a separate page for tracking video interaction on Tantec.com was created on Google Data Studio, which will dynamically provide the current situation on the site in relation to their videos. This provides significant value for the company, and a simple overview for further analysis over time. A screenshot of this report page is visible in section 10 and shall be considered the final product of this report.

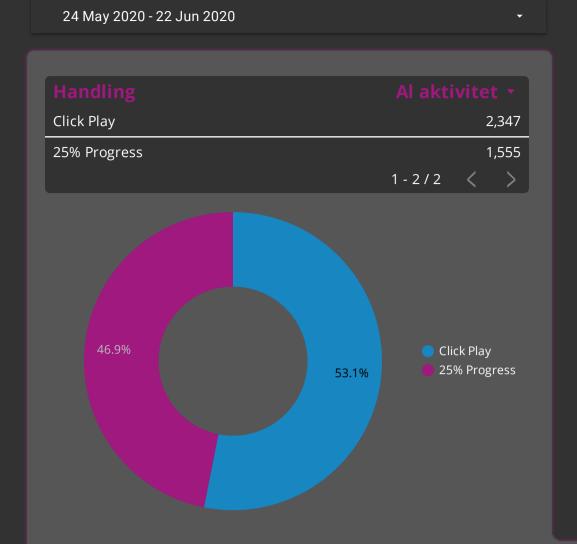
10. Product

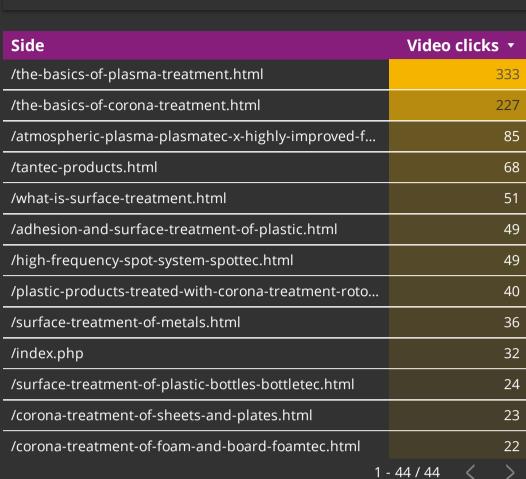




Nioba

Video aktivitet





	Handling	Video navn - /side	Al aktivitet ▼
1.	25% Progress	RotoTEC-X - Corona Treatment of Spray Containers - /the-basics-of-corona-treatment.html	281
2.	25% Progress	VacuTEC GoPro inside vacuum chamber - /the-basics-of-plasma-treatment.html	200
3.	25% Progress	Cable and Pipe Surface Treament Tantec - /atmospheric-plasma-plasmatec-x-highly-improv	166
4.	25% Progress	Tantec RotoTEC-X Corona Treatment System - /atmospheric-plasma-plasmatec-x-highly-imp	88
5.	25% Progress	ProfileTEC - Plasma Treatment - /the-basics-of-plasma-treatment.html	86
6.	25% Progress	Tantec FoamTEC Corona treatment of foam and board - /atmospheric-plasma-plasmatec-x	75 1 - 72 / 72 〈 〉

Land

	Handling	Video navn - /side	Al akti	vitet	t •
1.	Click Play	RotoTEC-X - Corona Treatment of Spray Containers - /the-basics-of-corona-treatment.html			419
2.	Click Play	VacuTEC GoPro inside vacuum chamber - /the-basics-of-plasma-treatment.html			332
3.	25% Progress	RotoTEC-X - Corona Treatment of Spray Containers - /the-basics-of-corona-treatment.html			281
4.	25% Progress	VacuTEC GoPro inside vacuum chamber - /the-basics-of-plasma-treatment.html			200
5.	25% Progress	Cable and Pipe Surface Treament Tantec - /atmospheric-plasma-plasmatec-x-highly-improved-features.ht			166
6.	Click Play	Cable and Pipe Surface Treament Tantec - /atmospheric-plasma-plasmatec-x-highly-improved-features.ht			166
7.	Click Play	ProfileTEC - Plasma Treatment - /the-basics-of-plasma-treatment.html			144
8.	25% Progress	Tantec RotoTEC-X Corona Treatment System - /atmospheric-plasma-plasmatec-x-highly-improved-feature			88
9.	Click Play	Tantec RotoTEC-X Corona Treatment System - /atmospheric-plasma-plasmatec-x-highly-improved-feature			88
10.	25% Progress	ProfileTEC - Plasma Treatment - /the-basics-of-plasma-treatment.html 1 - 1	00 / 156	<	86 >

