

The cover features a white background at the top, transitioning into a large blue area. This blue area is composed of two overlapping curved shapes: a darker blue shape in the foreground and a lighter blue shape behind it. The text is positioned in the upper left of the blue area.

Hempasense Track

User Manual

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Hempasense Track User Manual

Introduction

Hempasense Track enables applicators to improve their efficiency to win more business, improve application quality, and reduce costly claims with credible documentation. The system monitors precise environmental conditions around the asset during each step of the entire coating process.

Process

The solution is simple and easy to use. Assign a sensor to the job and place it close to the asset during the entire job, from the beginning of application of the first coat to the completed drying/curing of the last coat. If the asset is moved, the sensor should move with it. Optimally, the sensor is attached to the asset or hung close to it.

Alternatively, with multiple assets being handled in one batch, the sensor can be placed within a few meters from the batch while assigned to multiple jobs in the software. If the multiple jobs follow the same process at the same time, the shake functionality of the sensor can be used, but if the process differ between the jobs, the process should be recorded within the mobile app (not using the shake functionality).



Hardware

Parameters

1. ATEX certified sensor
2. Measures:
 - a. Ambient temperature
 - b. Relative humidity
 - c. Vibrations (accelerometer)

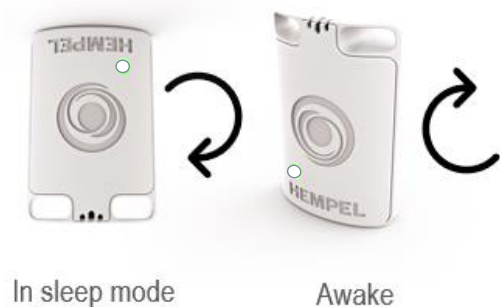
Functionalities

1. Turn sleep mode on and off
2. Shake sensor to register start of process
3. LED light guide

Turn sleep mode on and off

To put the sensor in sleep mode, turn it upside down and wait for blue light flashes one LED

To wake up the sensor from sleep mode, turn it right side up and wait for blue fast flashes on LED. Sensor should only be put into sleep mode when it is not being used on a job.



Shake – record process starts

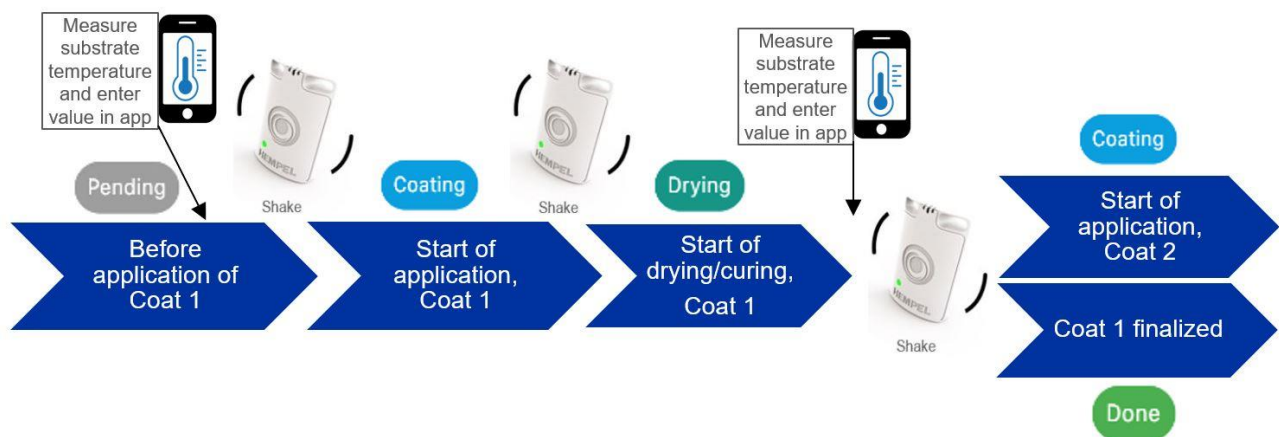
Between the steps in the process of applying coatings, shake the sensor 3 times to record progressing from one step to the next.

More specific, when you start applying the first layer of coating, shake the sensor. When the first layer of coating is applied and the drying/curing phase starts, shake the sensor. If the job includes more than one coat, shake the sensor when the second layer of coating is about to be applied. When the second layer is applied and the drying/curing phase starts, shake the sensor. Continue this process throughout the job until the last drying phase is done and the last coat has



cured, then shake the sensor to indicate the job is done. Turn the sensor upside down to put it into sleep mode. The sensor can now be assigned to a new job.

After each shake, the LED on the bottom of the sensor either blinks green or red to indicate whether the shake was accepted or not. It is always possible to see the current job status in the mobile app and web app. Use this feature to ensure the shakes have been recorded properly.



LED light guide

The LED light can be seen on the bottom of the sensor. The colour of the light and the blinking sequence indicates different stages of the sensor:



x1

Single blue flash – sensor is turned upside down and is in ‘pre-sleep’ mode. 90sec. countdown has started until sleep.



x2

Double short blue blink – 90 sec. countdown expires and sensor goes in sleep mode. Use the sleep mode when the sensor is not assigned to any job to save battery.



Fast blinking blue/green for 1 sec. – device is turned upright and wakes from sleep mode. Remember to wake up the sensor assigned for the specific job, prior coating.



3 slow green blinks – device accepts shake to indicate start of next phase.



3 slow red blinks – device does not accept the shake, as not enough time has passed since the last shake. This prevents accidental ‘double’ shakes.

Please check the status of the job in the mobile app immediately to ensure you are on track with the process. To record next phase, wait a few seconds before shaking again. It is always possible to “undo” a shake/ go back one step in the job status by using the progress buttons in the mobile app.



Yellow flash every 30 sec. – device is awake and monitoring.

Software

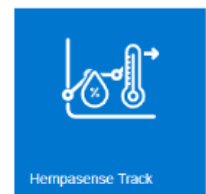
The Hempasense Track software can easily be accessed from both web and mobile app. No software installation is required. The same log in details grant the user access to both web and mobile app.

Home page

The Hempasense Track software can be easily accessed from MyHempel.com. Log in from a web browser to set up a job. All jobs created can be accessed from your mobile device via the Hempasense Track app available on App Store and Google Play.

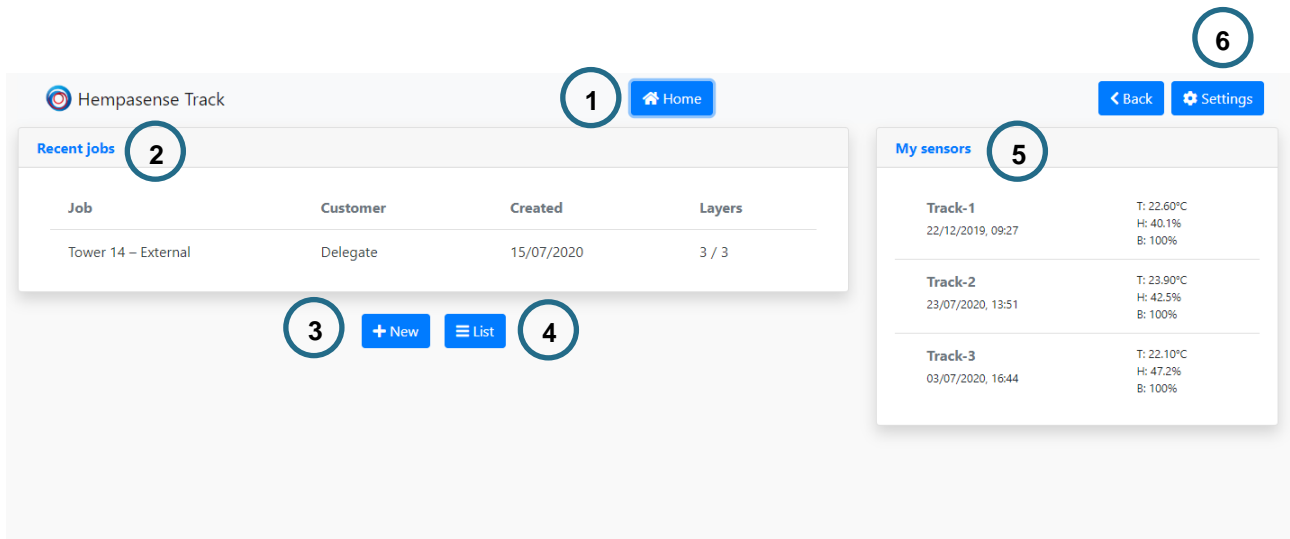
It is possible to include your colleagues to the Hempasense Track software. In order to add more users to your MyHempel Hempasense Track account, please follow the guide under the section MyHempel.

Entering MyHempel from a web browser click on the icon for Hempasense Track. The home page is the starting page in the web app. It gives you a quick overview of your recent jobs, and by clicking on a job you can continue your work or edit the job information.



1. [Home](#) - Clicking on this button will always take you back to the Home page (this page). It appears at the top of every page.
2. [Recent Jobs](#) - This list shows the top 5 most recently created jobs. Click on any job to see the details and edit.
3. [+ New](#) - To create a completely new job, click on this button.
4. [≡ List](#) - To see a full list of all jobs created, click on this button.
5. [My Sensors](#) - This is an overview of all your sensors, showing the current ambient temperature, relative humidity and battery level of each sensor.

6. [Settings](#) – Click here to go to the Settings page.

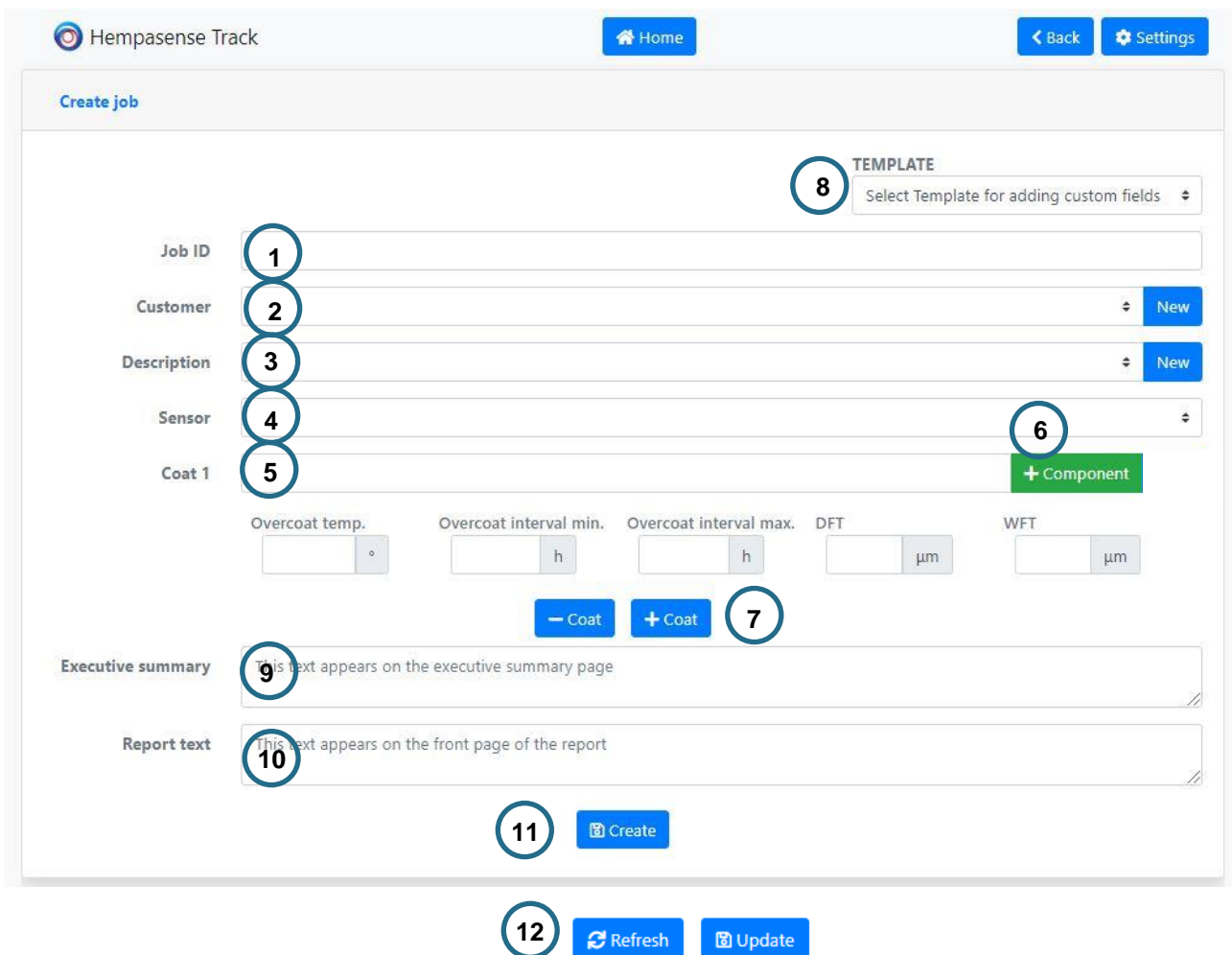


Create Job/Edit Job page

To set up a new job, fill out the boxes using the given specification.

1. **Job ID** – Give the job a specific ID. This might be related to your other digital systems.
2. **Customer** – Either choose from the dropdown menu, or create a new.
3. **Description** – Here you can manually enter the paint system – typically found in the specification. Either choose from the dropdown menu, or create a new.
4. **Sensor** – Assign a specific sensor for the job. Choose from the drop down menu.
5. **Coat X** – Enter the product name and code of the paint for each coat using from the Specification. For Hempel paint use the scan functionality, it requires access to a camera, or enter the batch/lot number of the Hempel paint and the product information will show. Moreover, specify the overcoat temperature, overcoat interval (min-max hours), DFT and WFT for each coat, using the Specification.
6. **+ Component** – Add components per coat. If the layer consists of more than one component, click + Component.
For example for a two component paint specify both the base and a curing agent as components to the coat.
7. **+ / - Coat** – Click + or - coat to add or remove number of coats from the job.

8. **Template** – Select a template from the dropdown menu to add needed custom fields or select “none”.
(See section Settings page for more information about creating a template)
9. **Executive Summary** – Here you can enter a quick summary of the job performed, appearing on the first page of the report. You can fill this information in now or wait till the job is finished, just before generating a report.
10. **Report Text** – In this field you can fill out any text you would like to include in the final report for the customer. This can either be a standard text, or specifically written to this customer. It will appear on the front page of the report. You can fill this information in now or wait till the job is finished, just before generating a report.
11. **Create** – When information is filled in for the new job, click “Create”.
12. **Refresh/ Update**– The “Create” button will be replaced by “Refresh”/”Update” buttons if you are editing in an already created job.



The screenshot shows the 'Create job' form in the Hempasense Track application. The form includes the following elements:

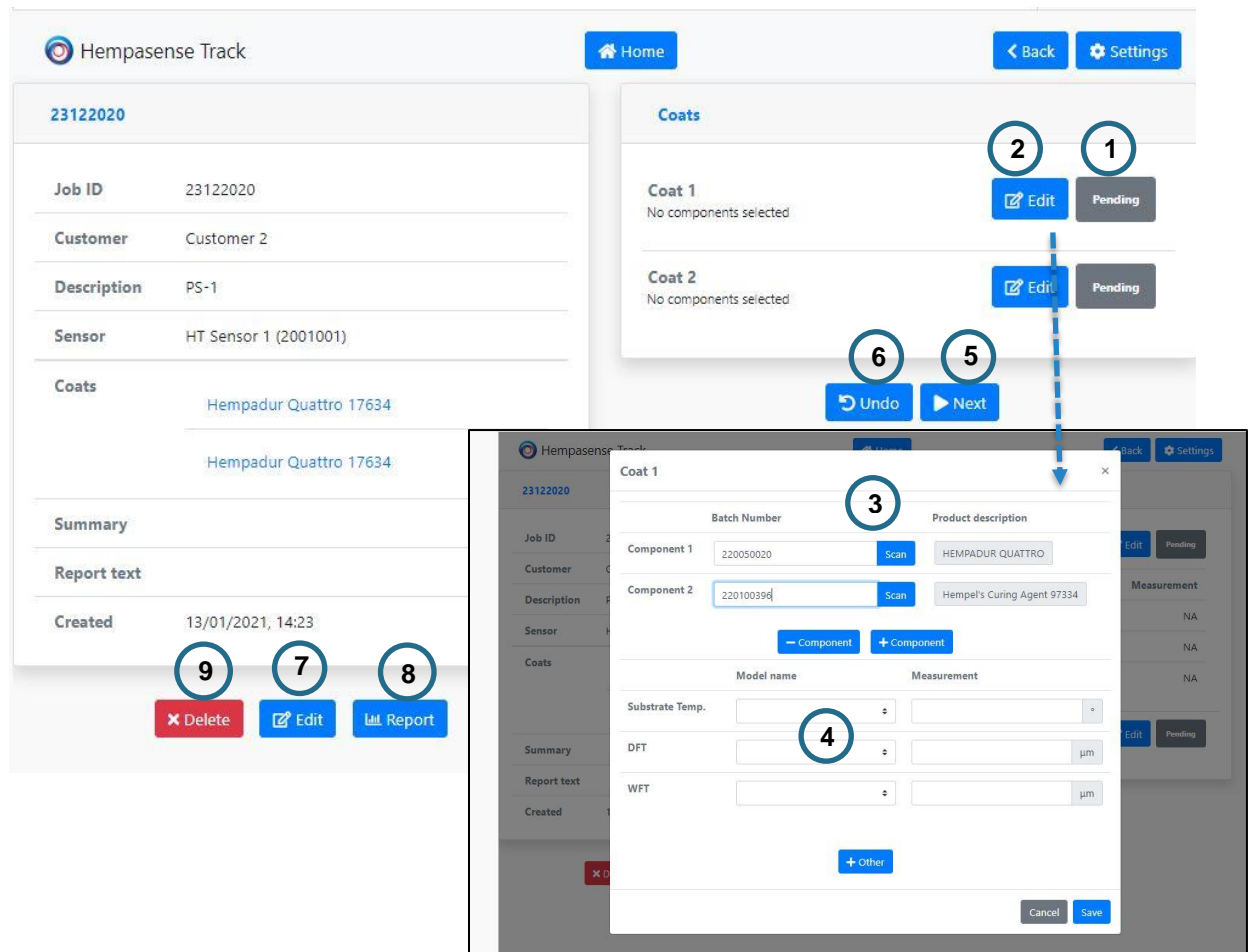
- Navigation:** 'Home' button, 'Back' button, and 'Settings' button.
- Form Fields:**
 - Job ID:** Text input field (1).
 - Customer:** Text input field with a 'New' button (2).
 - Description:** Text input field with a 'New' button (3).
 - Sensor:** Dropdown menu (4).
 - Coat 1:** Text input field with a '+ Component' button (5).
 - Overcoat temp.:** Text input field with a degree symbol (6).
 - Overcoat interval min.:** Text input field with an 'h' unit (7).
 - Overcoat interval max.:** Text input field with an 'h' unit (8).
 - DFT:** Text input field with a 'µm' unit (9).
 - WFT:** Text input field with a 'µm' unit (10).
- Buttons:** '- Coat' and '+ Coat' buttons (11).
- Text Areas:**
 - Executive summary:** Text area with placeholder text 'This text appears on the executive summary page' (12).
 - Report text:** Text area with placeholder text 'This text appears on the front page of the report' (13).
- Action Buttons:**
 - Create:** Button with a document icon (14).
 - Refresh:** Button with a circular arrow icon (15).
 - Update:** Button with a document icon (16).

Job page

After having created a new job or selected a job from the home menu, you will see the Job page. To the right you can see the specifications for the job and to the right you can see the actual status of the coats included in the job.

1. [Job status](#) - This status indicates the process the coat is currently at. Status will start at "Pending" and move onwards to "Coating", "Drying" and "Done". When shaking the sensor the status will change.
2. [Edit \(Coat related\)](#) – Click here to open the specific coat information page. Here you can add components to be used for the specific coat, select equipment and specify custom fields "Per coat".
3. [Add components for the specific coat](#) – Enter the batch/lot number and product description per coat. For Hempel paint use the mobile app's scan function to easily include paint components per coat, just scan the batch/lot number on the can.
4. [Add equipment for the job](#) – Select the equipment to be used per coat for measuring Substrate temp, WFT and DFT. The equipment available in the drop-down menu is based on the "My equipment" list to be found under Settings.
5. [Next](#)– "Next" button, can be used while the job is in progress. When 'Next' is clicked the next phase in the process is started and the status next to the coat will change.
6. [Undo](#) - If 'Next' button have been pushed or the sensor have been shaken by a mistake, you can quickly go back one the step in the job by pressing "Undo".
7. [Edit](#) - Click here to edit or add to the job information entered when the job was created. This shouldn't be edited when application has started, expect if a coat needs to be added or to write Summary and Report text.
8. [Report](#) - When the job is done and all coats have status "Done", click here to create the report.

9. **Delete** – If needed, this will permanently delete the job.




Settings page

On the Settings page you can customize the report layout, insert your logo and choose your regional format of time and temperature. Moreover, you should add equipment to be used during jobs for measuring surface temperature, WFT and DFT. The equipment added here will be saved to your list of equipment that you always can choose from.

1. **My equipment** – Here you can have a full list of instruments you use in your production, including serial number, which you can show in your report.
2. **Delete** – Click here if you need to remove an instrument, if for example it is taken out of production.
3. **Add equipment** – Fill out information for your instruments (Model name, serial number and measurement type: WFT, DFT, Substrate temp. or Other) you are using in your production to add them to your list on the right.

4. [Temperature format](#) – Choose whether you want to report using Celsius or Fahrenheit temperatures.
5. [Time format](#) – Choose whether you want to report using 24hour format or 12hour format (AM/PM)
6. [Brand logo](#) – Here you can upload your company logo. It will be featured on the front page of the report.
7. [Colors](#) – Here you can choose the colours you would like the customer report to primarily feature. This could for example be your company colours. Click on the line you want to change, and then click on the colour you want to change it to.
8. [Save](#) – Click here to save the changes you have made.
9. [Custom fields / Templates](#) – Press Custom fields to capture other relevant information during the job. The information can be categorised into: Surface preparation, Pre application, Post application or Per coat. Press Templates and you can structure your customer fields into various templates to be used for different jobs.


Hempensasense Track

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Add equipment

Model name

Serial number

Type

+ Add equipment

My equipment

Wagner Cobra 4025	Other	Delete
Elcometer A	Sub. Temp	Delete
DFT Probe	DFT	Delete
Probe X	Sub. Temp	Delete
Elcometer test	Sub. Temp	Delete
Elma 614a	Sub. Temp	Delete
DFT Probe	DFT	Delete
Other probe	Other	Delete
Elcometer 345	Sub. Temp	Delete
WFT Probe	WFT	Delete
Elcometer 222	Sub. Temp	Delete
BO XX	DFT	Delete

Temperature format

☒ Celcius
 ☐ Fahrenheit

Brand logo

Choose File

No file chosen

Colors

Primary

Secondary

Text

Time format

☒ 24-hour format
 ☐ 12-hour format (AM/PM)


+ Save

Custom fields

Custom fields gives you an opportunity to capture relevant information for different stages of the job. You decide what additional information would be valuable for your company to document as a part of the final Hempasense Track quality report. The custom fields added via the web app under “Settings” will be applicable for your different jobs in the form of a template. Simply add any needed additional custom fields by naming the label in relevant

custom field category. The labels added to your list of custom fields can later be sorted in templates.

1. **Label name** – Enter relevant areas or factors you would like to include values for during the job and press “+”. The labels can be categorised into four different areas of the job process:
 - a. **Surface preparation** – Methods and information regarding preparation of the surface for example related to cleaning or blasting done prior application.
 - b. **Pre application** – Any information captured before coating starts.
 - c. **Post application** – Any information captured after all coats have been applied and dried/cured has ended.
 - d. **Per coat** – Any information captured per coat during the application and drying/curing phase (additional elements you find relevant to include and report on besides the already included elements and environmental).
2. **Edit /Delete** – The entered custom field labels will be added to your list to the right. From here you can always edit the labels or delete them. The list of custom field labels can later be structured and organized into various templates to be used for different jobs.
3. **My list of labels** – The named labels added for each category will go to the “My” lists of custom field divided by category. Based on the lists of labels different templates can be created.


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Custom field labels configuration

Surface preparation

Label name +

My Surface preparation

Blast speed	Edit	Delete
Rust scale	Edit	Delete
Acid Test	Edit	Delete
Notes surface	Edit	Delete
Blasting Type	Edit	Delete
Bead Size	Edit	Delete

Pre application

Label name +

My Pre application

Inspected by:	Edit	Delete
Cleaning Method	Edit	Delete
Customer purchase order #	Edit	Delete
Job location	Edit	Delete

Post application

Label name +

My Post application

# of holidays	Edit	Delete
Quality Verified by	Edit	Delete
Inspection date	Edit	Delete
Scratch test	Edit	Delete

Per coat

Label name +

My Per coat

Coat test label	Edit	Delete
Thinner amount	Edit	Delete
Coat finish confirmed by	Edit	Delete

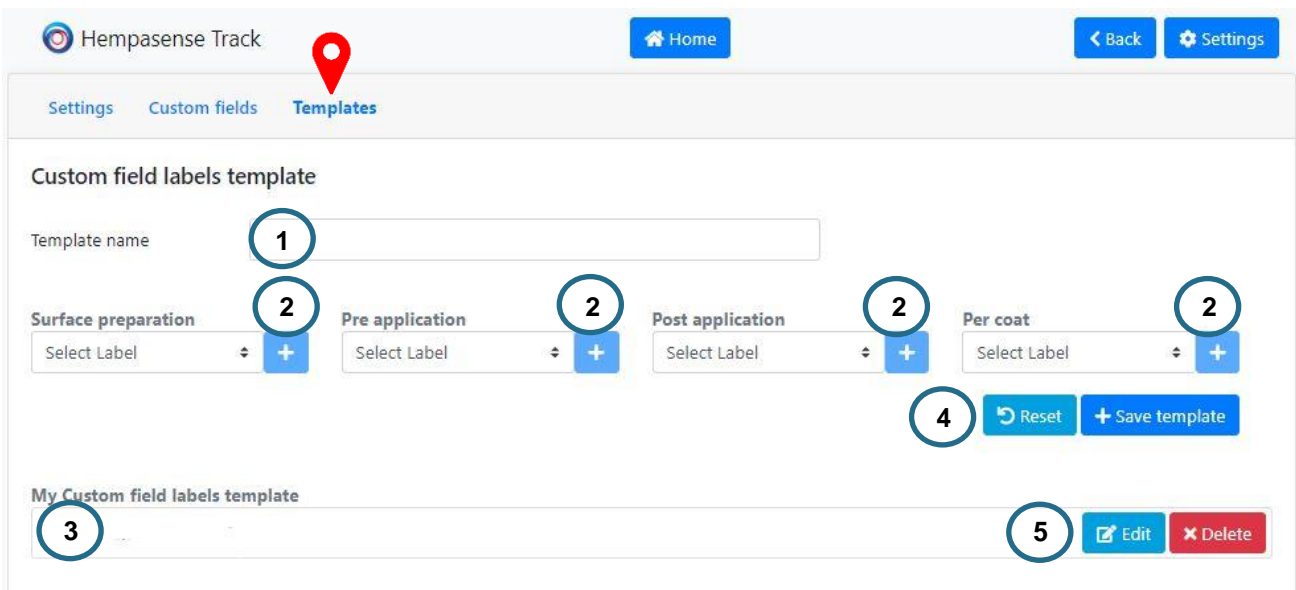
Templates

From your lists of custom fields divided into Surface preparation, Pre application, Post application and Per coat you can create specific templates. When creating a new job, select the suitable templates from your list and the custom field labels will automatically be incorporated to the job process for you to manually specify values for. Creating a new job you

should choose to assign a template for the entire job, or you can choose not to select any template. Notice: when a template has been assigned to a job, you cannot add or edit in the labels for that specific job neither can you go back and add a template later in the process of that specific job.

1. [Template name](#) – Name the template you are about to create.
2. [Select label](#) – Add from the drop down menu labels you want to include in the template for the specific categories. The option of labels shown in the drop down menu is based on the list of added custom fields in that particular custom field category (The “My” list under Custom fields).
3. [My Custom fields labels template](#) – Here you can see all your created templates. These templates can be assigned to new jobs.
4. [Reset / Save template](#) – Here you can refresh the page if you have made any changes to a template. Press “+ Save template” when you have selected and sorted needed labels in the various categories.
5. [Edit/ Delete](#) – You can edit or delete your created templates.

Warning, changes to an existing template will not change anything in existing jobs using that particular template. All changes will only work in new jobs created after the template changes. It is recommended to create a new template instead of editing in existing templates.



Hempasense Track

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Settings Custom fields **Templates**

Custom field labels template

Template name 1

Surface preparation 2 Pre application 2 Post application 2 Per coat 2


Select Label + Select Label + Select Label + Select Label +

4 Reset + Save template

My Custom field labels template 3

5 Edit Delete

6. **Navigation buttons** - Arrows and delete button allow you to move the label up and down and thereby edit the custom field structure in the template. Press “X” to remove the label from the template.


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Custom field labels template

Template name

Surface preparation

Select Label

+

Added Surface preparation labels

1. Blasting of internal surface, Roughness ISO 8503-2

↑

↓

X

6
2. Blasting of Internal surface, Cleanness ISO 8501-1

↑

↓

X
3. Date/ time start of surface prep.

↑

↓

X
4. Date/time end of surface prep.

↑

↓

X
5. Notes surface

↑

↓

X

Pre application

Select Label

+

Added Pre application labels

1. Customer purchase order #

↑

↓

X
2. Painting hall

↑

↓

X
3. Job location

↑

↓

X

Post application

Select Label

+

Added Post application labels

1. Inspection date

↑

↓

X
2. Quality Verified by

↑

↓

X
3. Scratch test

↑

↓

X

Per coat

Select Label

+

Added Per coat labels

1. Thinner amount

↑

↓

X
2. Extra WFT

↑

↓

X
3. Extra DFT

↑

↓

X
4. Coat finish confirmed by

↑

↓

X

Reset
+ Save template

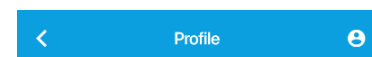
Mobile App

Download the Hempasense Track App to your mobile device. The app can be downloaded from App Store or Google Play. Use the same login details from the MyHempel account to enter the jobs created. Use the mobile app to execute the jobs created on MyHempel. The web and mobile app will sync, meaning any values entered in the web app will be visible on the mobile app and vice versa.



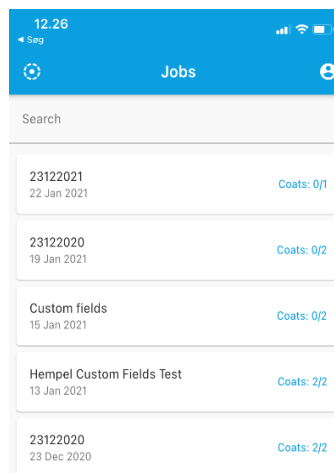
Profile page

On this page you can sign in and sign out of your profile.



Jobs page

On this page you can see the full list of jobs created in the web app, incl. the name (Job ID), when they were created, how many coats are scheduled and how many have been finalized (status "Done"). When you click on a job, you get to the Job info page.

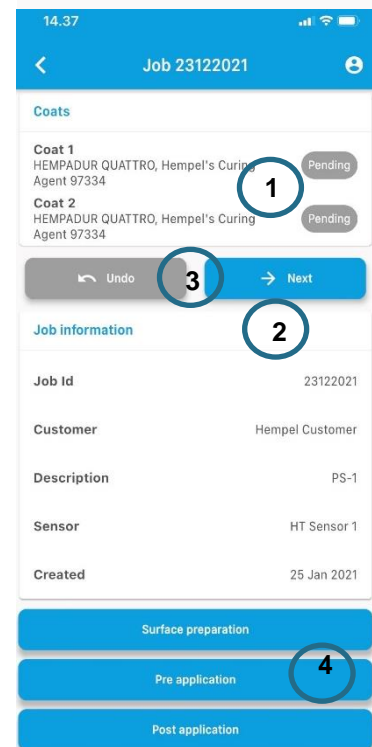


Job ID	Date	Coats
23122021	22 Jan 2021	Coats: 0/1
23122020	19 Jan 2021	Coats: 0/2
Custom fields	16 Jan 2021	Coats: 0/2
Hempel Custom Fields Test	13 Jan 2021	Coats: 2/2
23122020	23 Dec 2020	Coats: 2/2

Job info page

On this page you can see:

1. **The individual coats of the job and their status** – the status change when shaking the sensor. A coat goes through following status during a job: Pending, Coating, Drying or Done. Click on a coat and it expands in order for you to enter more information (See Coat info page),
2. **Job information** – information specified when creating the job in the web app (Specification related). Additional to the job information visible here you will be able to see the target WFT, DFT and specified overcoating intervals and temperature when expanding each coat,
3. **"Undo" and "Next" buttons** – to be used as an alternative to shaking the sensor thus change status of the job.

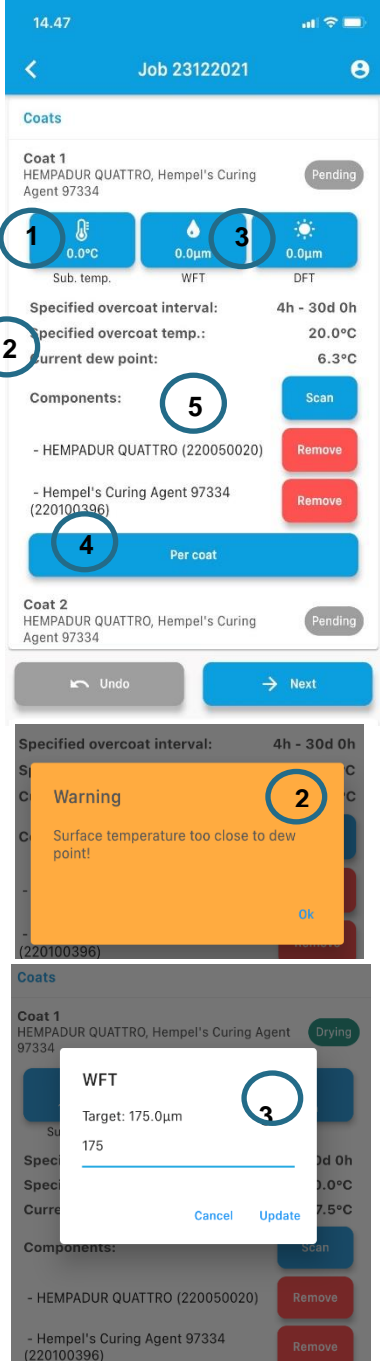


4. **Custom fields** – if the template assigned to the job includes custom field labels for Surface preparation, Pre application and/or Post application, you will find these categories at the bottom of the job info page. Click on the custom field category and a separate page opens with the labels included in your template. Fill in values for the labels during the job.

Coat info

Click on a coat to expand it and see and specify values for it. To the right Coat 1 is expanded and following details are visible:

1. **Substrate temperature** – Measure the substrate temperature with the specified equipment (Selected in the Job page on the web app). Enter the value in the mobile app by pressing the blue button “Sub. temp” for the coat you are about to apply.
2. **Dew point** – Before starting application of any coat, check if the conditions are optimal by comparing the substrate temperature with the dew point. A warning will show if the substrate temp. is too close to the dew point (The rule of thumb is that substrate temp. should at least be above +3°C or +5°F from the dew point). The dew point will consciously be calculated based on the sensors’ monitored AT and RH until the coat has status “Done”. The dew point calculated when starting to apply coat x will go into the report for coat x.
3. **WFT and DFT** – When the coat has been applied measure WFT and enter the value here. When the coat has dried/cured measure DFT and enter the value here. The details of the equipment that the measurement is performed with have been recorded in the web app at the job page. These equipment details will be presented in the report. When specifying WFT and DFT you will see a target value. This is the value related to the specification, entered when creating the job in the web app.



4. **Per coat** – Click on this button to specify values for the custom field labels “Per coat” during the job. Fill out the information for the labels and press “Save”. These per coat labels are reflected in all coats of the job and values should be specified under each coat number. Example to the right includes with 4 labels.



5. **Components** – Each coat can have multiple components (such as a base, curing agent and thinner). Here you should specify components per coat. For Hempel paint include components smart and easy by using the mobile app’s scan function described below. For other paint products enter the batch/lot number and product name and number manually. The components can either be specified here in the mobile app or in the web app on the Job page)

Scanner

Specify components per coat. Press “Scan” and the scanner will appear. Scan the batch/lot number on the Hempel paint can for each coat to quickly load the product and batch/lot information. By scanning the batch/lot number the system reads and records what coating it is by product name, number and shade, where and when it was produced, etc. Press scan again until all components have been specified for Coat 1 and move on to next coat of the job.

Note: Only Hempel paint products can be scanned.

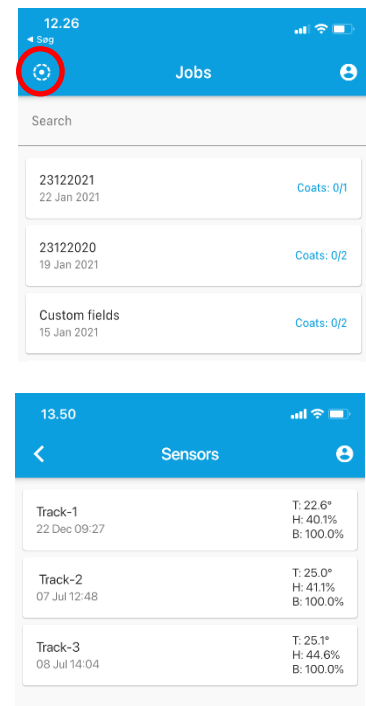
If you are using a non Hempel product, simply manually input the information.



Sensors

To get to this page, click the settings-wheel in the top left corner on the mobile app. On this page you can see an overview of all your sensors, and what ambient temperature and relative humidity each of them are currently measuring. You can also see their battery level, and the date of the last received signal – so you can see if all your sensors are working correctly.

Notice: you should not change the battery of the sensor at any time. You will automatically, as part of the service agreement receive a new sensor replacing the current one, before it runs out of battery.




Hempasense Track Report

When the job has been executed and all coats have status “Done”, ensure that the needed custom field labels have been specified with values. Log on MyHempel via the web app to create the Hempasense Track Quality Report. Select the finalized job from the your job list and fill in the Summary and Report text (if not already specified).

Press “Report” and the report will be available to download as PDF.

The report includes:

- All time and date stamps from the shakes of the sensor during the job, indicating when different stages of the job started or were completed.
- The monitored ambient temperature and relative humidity by the sensor. The interval of this environmental data recorded to the report is based on the pre-set interval of the sensor.
- Specification used when creating the job, component specified for each coat, equipment specified to be used during the job, values entered for the template’s custom fields, graphs and table overview of monitored RH and AT per coat.


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23122021

Job ID	23122021
Customer	Hempel Customer
Description	PS-1
Sensor	HT Sensor 1 (2001001)
Blasting of internal surface, Roughness ISO 8503-2	Medium Grit, segment 2-3.
Blasting of Internal surface, Cleanliness ISO 8501-1	Sa 2 1/2
Date/ time start of surface prep.	23.01.2021
Date/time end of surface prep.	24.01.2021
Notes surface	All OK, checked by SIH
Customer purchase order #	2002
Painting hall	2
Job location	Lyngby, Denmark
Coats	Hempadur Quattro 17634 Hempadur Quattro 17634
Summary	<p>Dear customer [name]. Thank you for using us for [project id/number].</p> <p>Please find data in the quality report, specifying the procedure and environmentalis monitored during the application process of [job id/number].</p> <p>If you have any questions toward the data or procedure, please contact us.</p> <p>Best regards</p> <p>[responsible person, title, company]</p>
Report text	<p>This report captures the application process of [asset number] at [location].</p> <p>Start of application [date/year]</p> <p>End of application [date/year]</p> <p>Signature [name and title can be specified and signature can be placed in after PDF have been created]</p>
Created	25/01/2021, 11:40

Coats

Coat 1

HEMPADUR QUATTRO, Hempel's Curing Agent 97334

[Edit](#)
[Done](#)

Coat 2

HEMPADUR QUATTRO, Hempel's Curing Agent 97334

[Edit](#)
[Done](#)

[Undo](#)

Post application

Inspection date	January 25 2021
Quality Verified by	SIH
Scratch test	OK

[Edit](#)

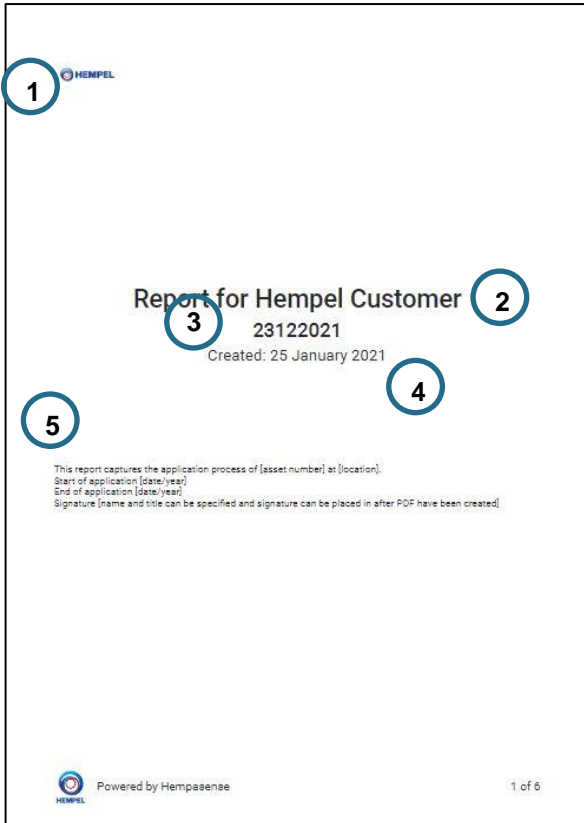
[Delete](#)
[Edit](#)
[Report](#)

Report front page

1. Company logo
2. Customer name
3. Job ID
4. Date of report creation
5. Report text

Overview

Page 2 gives a quick overview of how the application process has been completed, compared to the specification made beforehand and entered when creating the job.



1. Company logo

2. Customer name

3. Job ID

4. Date of report creation

5. Report text

Report for Hempel Customer 23122021
Created: 25 January 2021

This report captures the application process of [asset number] at [location].
Start of application [date/year]
End of application [date/year]
Signature [name and title can be specified and signature can be placed in after PDF have been created]

Powered by Hempasense 1 of 6

Overview

Executive summary 1

Dear customer [name], Thank you for using us for [project id/number].
Please find data in the quality report, specifying the procedure and environmental conditions monitored during the application process of [job id/number].
If you have any questions toward the data or procedure, please contact us.
Best regards
[responsible person, title, company]

Specification 2

Coat	Product	Product number	DFT	WFT	Overcoat interval	Overcoat temperature
1	Hempadur Quattro 17634	-	125µm	175µm	4h - 30d 0h	20.0°C
2	Hempadur Quattro 17634	-	125µm	175µm	4h - 30d 0h	20.0°C

System/Description: PS-1

Surface preparation 3

#	Subject	Value
1	Blasting of internal surface, Roughness ISO 8503-2	Medium Grit, segment 2-3.
2	Blasting of internal surface, Cleanliness ISO 8501-1	Sa 2 1/2
3	Date/ time start of surface prep.	23.01.2021
4	Date/time end of surface prep.	24.01.2021
5	Notes surface	All OK, checked by SIH

Pre-application details

#	Subject	Value
1	Customer purchase order #	2002
2	Painting hall	2
3	Job location	Lyngby, Denmark

Application overview 4

The application process and measurements taken throughout are listed in the below table.

Coat	Product	Product number	DFT	WFT	Overcoat interval	Avg. drying/curing temperature
1	HEMPADUR QUATTRO (220050020), Hempel's Curing	17636, 97334	-	-	0h 0min	-

Powered by Hempasense 2 of 6

1. Executive summary
2. Specification overview
 - a. Product
 - b. DFT/WFT
 - c. Overcoat interval
 - d. Overcoat temp.
3. Surface preparation and Pre application custom fields
Labels from the template assigned to the job and values entered during the job
4. Application overview
 - a. Product and product number
 - b. DFT/WFT
 - c. Overcoat interval
 - d. Avg. drying/curing temperature

Details

1. Instrument details

Details about instruments used to collect measurements represented in the report.

2. Hempasense Track sensor

3. Product details

- Product name
- Batch/lot number
- Product number
- Shade

4. Application details

- Start/Drying/Curing time
- Recoat interval
- DFT/WFT
- Substrate Temp.
- Drying/Curing temp./humidity

5. Per coat details

- Custom field labels per coat

Details

Instrument/Equipment details

Coat	Model name	Serial number	Type
1	Elicometer 222	8642	Substrate temp.
1	DFT Probe	1234	DFT
1	WFT Probe	7531	WFT
2	Elicometer 222	8642	Substrate temp.
2	DFT Probe	1234	DFT
2	WFT Probe	7531	WFT

Hempasense Track sensor: HT Sensor 1 (2001001)

Product details

Coat	Product	Batch/Lot no.	Product number	Shade
1	HEMPADUR QUATTRO, Hempel's Curing Agent 97334	220050020, 220100396	17636, 97334	19990, 00000
2	HEMPADUR QUATTRO, Hempel's Curing Agent 97334	220050020, 220100396	17636, 97334	19990, 00000

Application details

The data presented in this table is recorded during the application process, using the instruments indicated above. The ambient temperature and relative humidity data is presented as an average and the measurements behind this average is found in the appendix at the end of this report, but also visually presented by the graphs just below.

Coat	Start	Drying/Curing	Overcoat interval	DFT	WFT	Sub. Temp.	Dew point	Drying/Curing T	Drying/Curing RH
1	Jan 25 11:50	Jan 25 12:06	5h 20min	125µm	178µm	12.0°C	8.3°C	18.6°C	50.7%
2	Jan 25 17:26	Jan 25 17:49	-	124µm	176µm	-	8.8°C	19.1°C	49.7%

Per coat details

Coat	Subject	Value
1	Thinner amount	7%
1	Extra WFT	120
1	Extra DFT	178
1	Coat finish confirmed by	SIH
2	Thinner amount	5%
2	Extra WFT	130
2	Extra DFT	180
2	Coat finish confirmed by	SIH

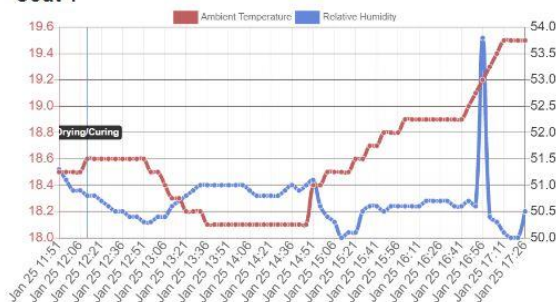


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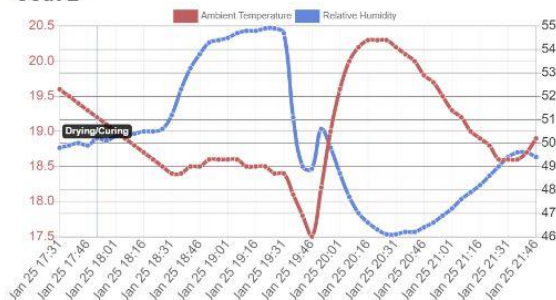
4 of 8

Graphs

Coat 1



Coat 2



Powered by Hempasense

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Graphs

Visuals representation of the ambient temperature and relative humidity measurements for each coat, over time.

Data

All measurements of ambient temperature and relative humidity for each coat, with timestamps visualized in tables. The data points is based on the pre-set monitoring interval of the sensor assigned to the job.

Below the table overview, Post application custom field show the labels from the table included for this custom field category and the values specified.

Data					
Coat 1					
Timestamp	Timestamp	Ambient Temperature	Timestamp	Ambient Temperature	Relative Humidity
Jan 25 11:51	Jan 25 13:16	18.5°C	Jan 25 18:46	18.5°C	53.8%
Jan 25 11:56	Jan 25 13:21	18.6°C	Jan 25 18:51	18.6°C	54.3%
Jan 25 12:01	Jan 25 13:26	18.6°C	Jan 25 18:56	18.6°C	54.4%
Jan 25 12:06	Jan 25 13:36	18.7°C	Jan 25 19:01	18.6°C	54.5%
Jan 25 12:11	Jan 25 13:41	18.7°C	Jan 25 19:06	18.6°C	54.7%
Jan 25 12:16	Jan 25 13:46	18.8°C	Jan 25 19:11	18.5°C	54.8%
Jan 25 12:21	Jan 25 13:51	18.8°C	Jan 25 19:16	18.5°C	54.8%
Jan 25 12:26	Jan 25 13:56	18.8°C	Jan 25 19:21	18.5°C	54.9%
Jan 25 12:31	Jan 25 16:01	18.9°C	Jan 25 19:26	18.4°C	54.9%
Jan 25 12:36	Jan 25 16:06	18.9°C	Jan 25 19:31	18.4°C	54.7%
Jan 25 12:41	Jan 25 16:11	18.9°C	Jan 25 19:36	18.1°C	51.1%
Jan 25 12:46	Jan 25 16:16	18.9°C	Jan 25 19:41	17.8°C	49%
Jan 25 12:51	Jan 25 16:21	18.9°C	Jan 25 19:46	17.5°C	48.9%
Jan 25 12:56	Jan 25 16:26	18.9°C	Jan 25 19:51	18.2°C	50.6%
Jan 25 13:01	Jan 25 16:31	18.9°C	Jan 25 19:56	19.0°C	49.8%
Jan 25 13:06	Jan 25 16:36	18.9°C	Jan 25 20:01	19.6°C	48.7%
Jan 25 13:11	Jan 25 16:41	18.9°C	Jan 25 20:06	20.0°C	47.7%
Jan 25 13:16	Jan 25 16:46	19.0°C	Jan 25 20:11	20.2°C	47%
Jan 25 13:21	Jan 25 16:51	19.1°C	Jan 25 20:16	20.3°C	46.6%
Jan 25 13:26	Jan 25 16:56	19.2°C	Jan 25 20:21	20.3°C	46.3%
Jan 25 13:31	Jan 25 17:01	19.3°C	Jan 25 20:26	20.3°C	46.1%
Jan 25 13:36	Jan 25 17:06	19.4°C	Jan 25 20:31	20.2°C	46.1%
Jan 25 13:41	Jan 25 17:11	19.5°C	Jan 25 20:36	20.1°C	46.2%
Jan 25 13:46	Jan 25 17:16	19.5°C	Jan 25 20:41	20.0°C	46.2%
Jan 25 13:51	Jan 25 17:21	19.5°C	Jan 25 20:46	19.8°C	46.4%
Jan 25 13:56	Jan 25 17:26	19.5°C	Jan 25 20:51	19.7°C	46.6%
Jan 25 14:01			Jan 25 20:56	19.5°C	46.9%
Jan 25 14:06			Jan 25 21:01	19.3°C	47.2%
Jan 25 14:11			Jan 25 21:06	19.2°C	47.6%
Jan 25 14:16			Jan 25 21:11	19.0°C	47.9%
Jan 25 14:21			Jan 25 21:16	18.9°C	48.2%
Jan 25 14:26			Jan 25 21:21	18.8°C	48.6%
Jan 25 14:31			Jan 25 21:26	18.6°C	49%
Jan 25 14:36			Jan 25 21:31	18.6°C	49.4%
Jan 25 14:41			Jan 25 21:36	18.6°C	49.6%
Jan 25 14:46			Jan 25 21:41	18.7°C	49.6%
Jan 25 14:51			Jan 25 21:46	18.9°C	49.4%
Jan 25 14:56					
Jan 25 15:01					
Jan 25 15:06					
Jan 25 15:11					

Timestamp	Ambient Temperature
Jan 25 17:31	19.6°C
Jan 25 17:36	19.5°C
Jan 25 17:41	19.4°C
Jan 25 17:46	19.3°C
Jan 25 17:51	19.2°C
Jan 25 17:56	19.1°C
Jan 25 18:01	19.0°C
Jan 25 18:06	18.9°C
Jan 25 18:11	18.8°C
Jan 25 18:16	18.7°C
Jan 25 18:21	18.6°C
Jan 25 18:26	18.5°C
Jan 25 18:31	18.4°C
Jan 25 18:36	18.4°C
Jan 25 18:41	18.5°C

Subject	Value
Inspection date	January 25 2021
Quality Verified by	SIH
Scratch test	OK

MyHempel

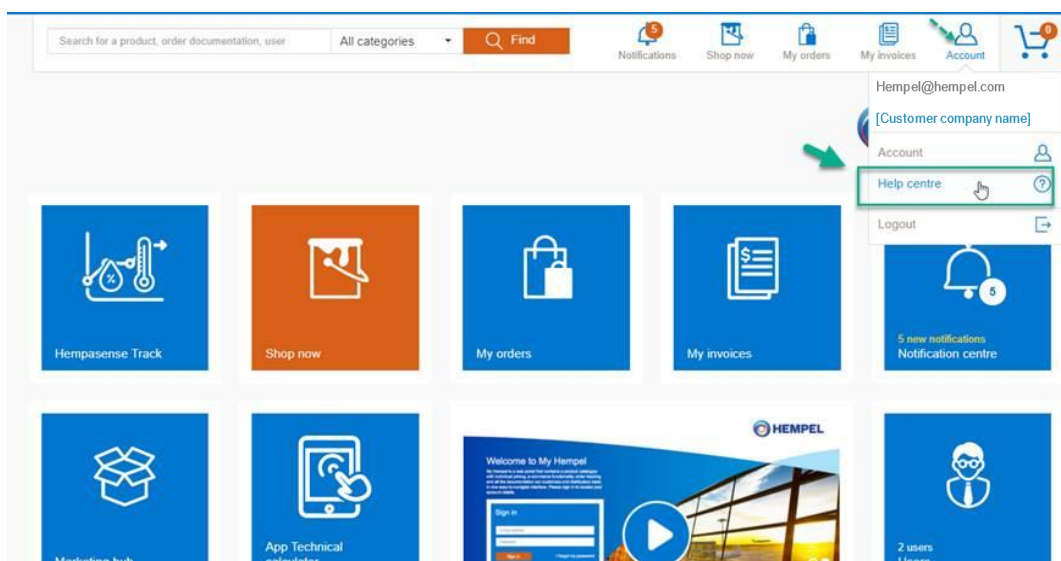
MyHempel is Hempel's Digital Customer Interface. To set up new jobs and create the Hempasense Track report simply log on your MyHempel account from a web browser. From the MyHempel Home Page you will be able to find the icon Hempasense Track. Click on this icon and you will be presented to the Hempasense Track software, web version.

Create new users

The main user account can invite colleagues to join the Hempasense Track software. Invite relevant people from your organization to access your Hempasense Track profile. This could for example be Quality Managers, Foremen, Applicators, Office Workers or other important people being a part of the Hempasense Track process. The invited users will both be able to log in on the software via MyHempel and the Hempasense Track mobile app.

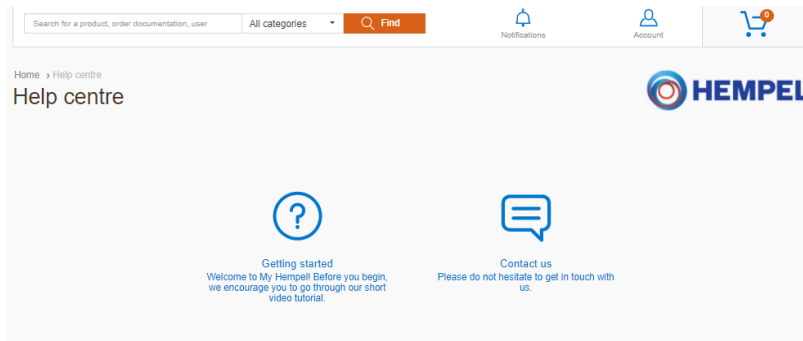
To find information on how to add a new user:

1. Log in to your MyHempel profile
2. Press "Account"
3. Go to "Help Centre"
4. Select the FAQ: "How to create new user"

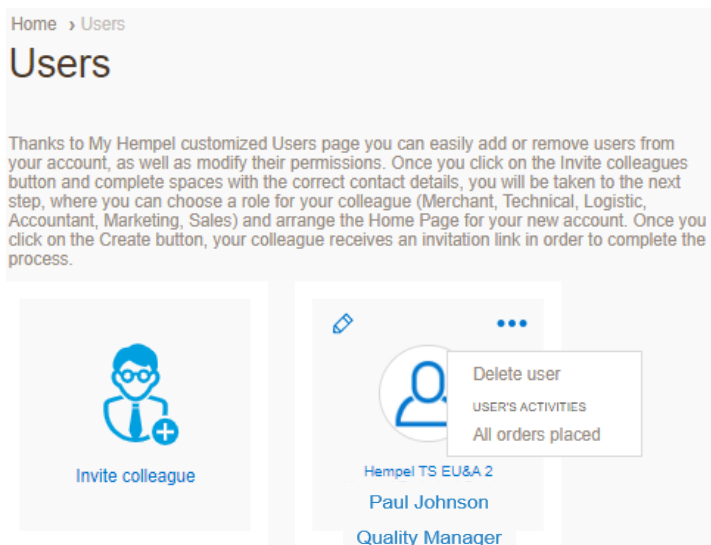
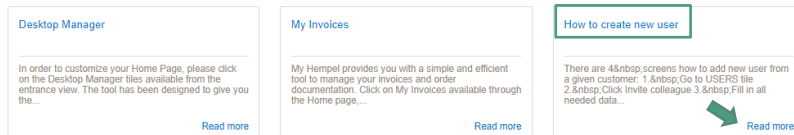


The customer main user, marked with a star, can at any time deactivate any User by changing the email of the User, deleted the User and edit the User's account permission.

There are no limitations for the number of User's who can be invited to your account. For any further questions for MyHempel, go to the FAQ page or contact your local Hempel Sales Representative.



Frequently Asked Questions



Technical Specifications & Certifications for 868 MHz model

Usage : Europe

Technical specifications

Operating temperature: -20°C to +65°C

EN 300 328 BLE Communication

EN 300 220 SRD 25 MHz to 1000 MHz

Enclosure Materials:

- Permanent Antistatic ABS 346A-757
- Transparent TP90 X10_ASTM (light-guide)

Battery Operated (3,6 V)

SAFT LS14500 (ATEX Approved)

Certifications

Low Voltage Directive 2014/35/EU

Radio Equipment Directive 2014/53/EU



ATEX

Hempasense Track is produced in accordance with the requirements of the following standards:

- EN IEC 60079-0:2018
- EN 60079-11:2012
- ATEX Directive 2014/34/EU

Marking

ATEX: II 1G Ex ia IIC Tx Ga

Tx - T4 for ambient temp. range up to 45°C

- T3 for ambient temp range up to 65°C



Certificate number

ATEX: OBAC 20 ATEX 0003X

Special conditions for safe use

- Ambient temperature range is -20°C - +65°C
- Battery must not be changed. In case of depleted battery, the sensor must be returned to Hempel A/S. See details in sales contract.
- The sensor should only be handled by hand.

Any changes or modifications made to the device not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.

Technical Specifications & Certifications for 915 MHz model

Usage : North America

Technical specifications

Operating temperature: -20°C to +65°C

Enclosure Materials:

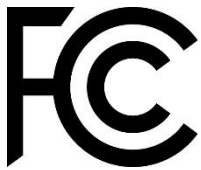
- Permanent Antistatic ABS 346A-757
- Transparent TP90 X10_ASTM (light-guide)

Battery Operated (3,6 V)

SAFT LS14500 (ATEX Approved)

Certifications

FCC Id : 2AXRV-HT915



Hempasense Track is produced in accordance with the requirements of the following standards:

- EN IEC 60079-0:2018
- EN 60079-11:2012

Marking



Special conditions for safe use

- Ambient temperature range is -20°C - +65°C
- Battery must not be changed. In case of depleted battery, the sensor must be returned to Hempel A/S. See details in sales contract.
- The sensor should only be handled by hand.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.*

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help.*

Any changes or modifications made to the device not expressly approved by the party responsible for compliance may void the user's authority to operate the equipment.