

PROJECT

SMART DENIM LAB

Minervahavenweg 6
1013 AR Amsterdam (Holland)



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February 2018



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01 GENERAL SPECIFICATION



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1. OBJECT

The object of the present document is to define, describe and quantify the equipment necessary for the implementation of a Smart Denim Lab, an area where a range of treatments are applied to denim jean fabrics to achieve different surface finishes.

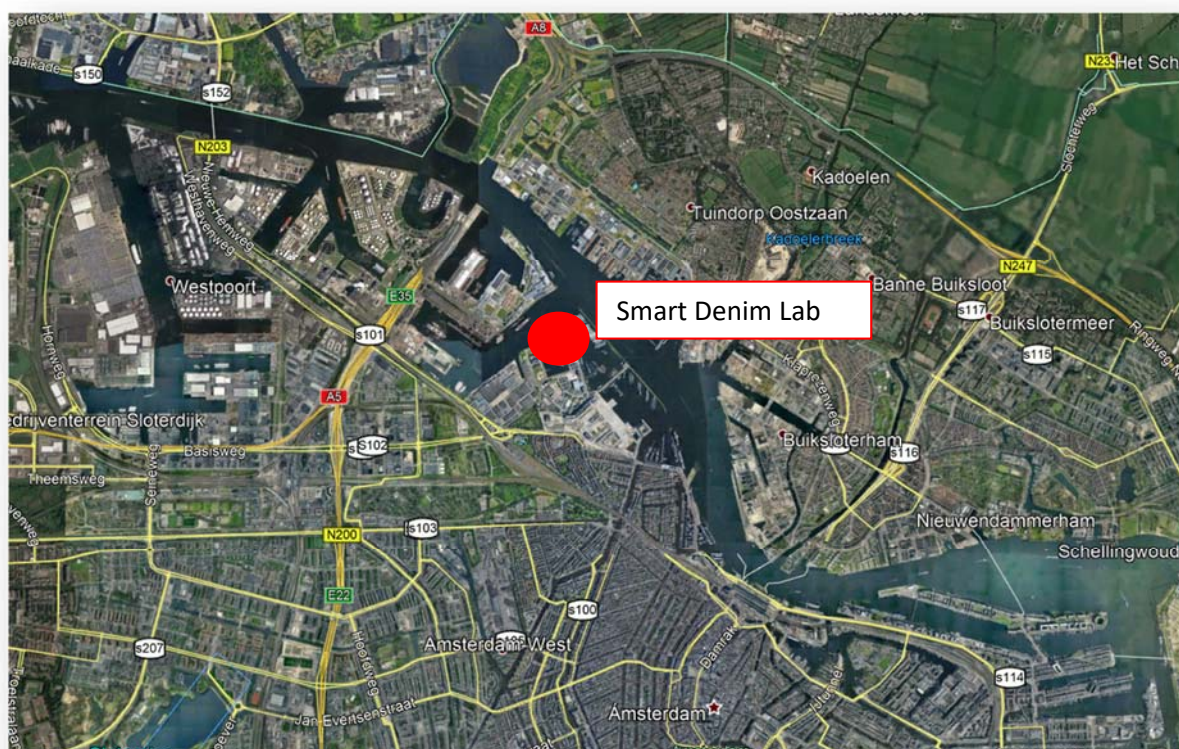
The area which is the object of the project is in a part of the ground floor of an existing building with various floors used for administration purposes.

1.1.1. Owner

PVH EUROPE
Danzigerkade 165
1013 AP Amsterdam (Holanda)

1.1.2. Location

The building where the area in question is to be located is in:
Minervahavenweg 6
1013 AR Amsterdam (Holanda)





2. STUDY OF REQUIREMENTS AND SPACES AVAILABLE

The design of the proposed layout is based on a productive layout agreed by all parties: the developer, engineering and equipment manufacturers.

The proposed layout provides for its division into two areas:

- Storage. An area that houses the various major items of production equipment and which emit higher levels of noise. The equipment used for production and supply for the laboratory equipment as far as the supply of installations is concerned. This equipment includes the steam boiler, the air compressor, the air treatment filters and equipment for the processing of water. The storage area is sub-divided into 3 zones:
 - The largest zone where the above-mentioned equipment is located;
 - Chemical storage, where the chemical products for the treatment of denim material is stored;
 - H2Zero room. Here are installed the various items of equipment used for the treating of waste water that is produced by the different types of equipment. The final aim is to achieve the complete recycling of the water used during the washing process so that the only end product generated is a type of concentrate that will be processed by an authorised operator.
- Laboratory. The main area that is divided into 2 zones:



- **Dry Zone.** An area where the laser equipment, press and work-benches are located.
- **Wet Zone.** An area that is raised 30 cm above that of the above and with which it is connected by steps and a ramp. The 30 cm are required to facilitate the passage of water pipes. The floor consists of a suspended floor and the zone houses 3 washing machines, 2 drying machines, an oven, a painted cabin, a weighing machine along with various auxiliary items of equipment and a zone fitted with 2 sinks, benches and shelving.

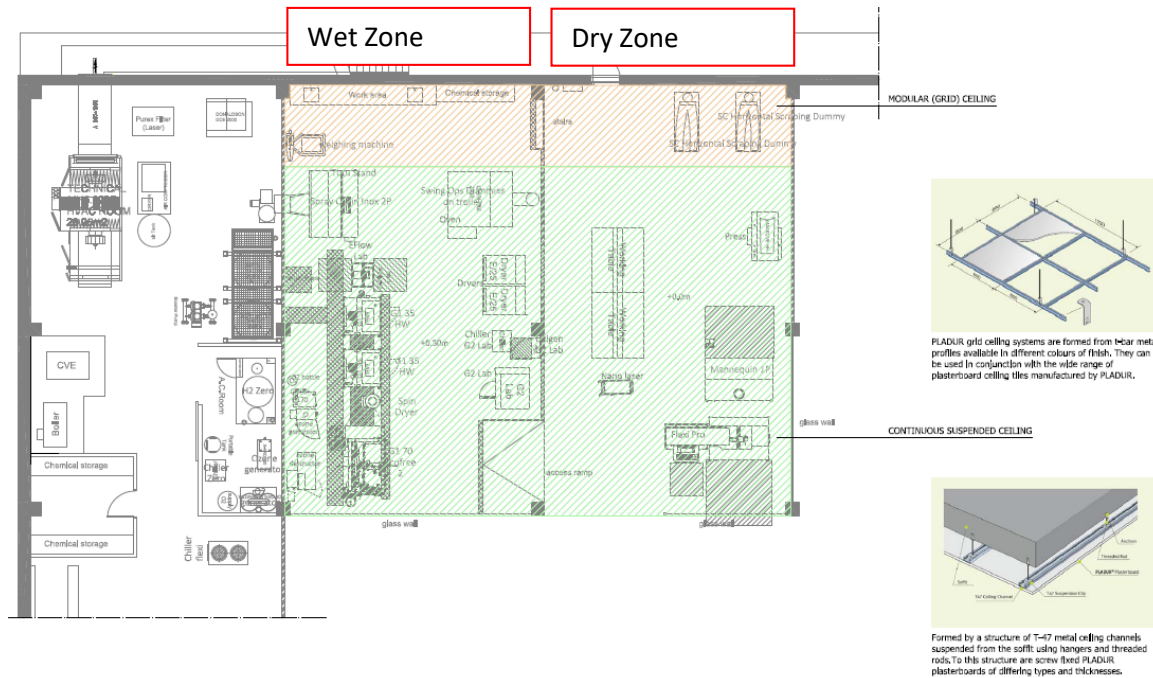
3. AREAS

The various zones that comprise the area are as follows and as reflected in the following table of surface areas and plan:

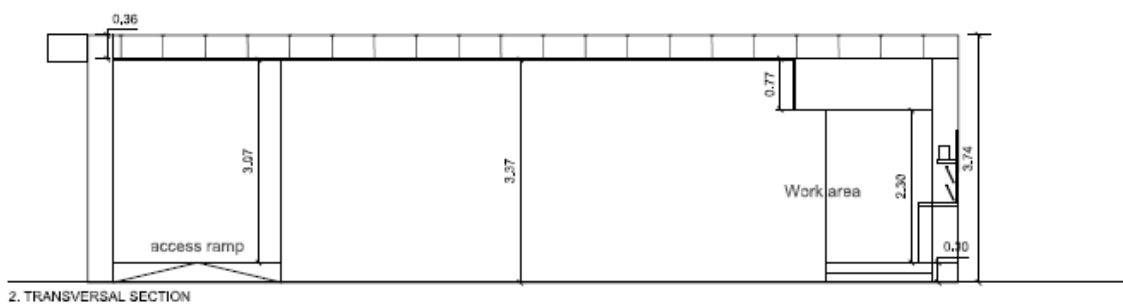
<i>DESCRIPTION</i>	<i>USEFUL AREA</i>	
STORAGE		
General Storage	94,23	m ²
H2 Zero room	12,45	m ²
Chemical Storage	13,04	m ²
LABORATORY		
Wet Zone	43,37	m ²
Dry Zone	46,06	m ²
TOTAL USEFUL AREA	209,15	m ²

4. DESCRIPTION OF FLOORS AND CIELINGSS

- **Storage.** This is a less finished zone as a result of which no suspended-type ceiling has been installed nor any further flooring. This solution facilitates the passage of the various installations necessary.
- **Laboratory.** On the upper part according to the plan and in a transversal direction 2.5 m wide, a removable ceiling is to be installed comprising of a section that connects to the wet zone. In the wet zone there will be a clearance height of 2.6 m and, given that the dry zone is raised by 30 cm, the clearance in this zone will be 2.3 m. In the remainder of the zone a continuous suspended ceiling is to be installed. In the following figure the shaded area has been coloured green. The clearance height will be 3.37 m in the dry zone and 3.07 m in the wet zone with the raised floor.



A clarifying section is provided below:



Because the wet zone requires a raised floor, a removable metal floor will be installed that is able to bear the weight of the machinery and is accessible when necessary. The zone supporting the washing machines will be composed of rectangular concrete blocks around the perimeter according to detail drawing DE01. The central area will be hollow with a 'tramex' floor to receive any accidental spillages that may come from the washing machines.