

Ingenieursbureau Stendess N.V.

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NOMINATION

INGENIEURSBUREAU
STENDESS



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Ingenieursbureau Stendess N.V., a steel and concrete engineering company

The engineering firm Stendess was founded by an experienced team specialising in the study and design of steel constructions. From its establishment Stendess has made high quality and full service provision its top priority. Thanks to this integral service, where the design of the metal superstructure and the concrete substructure are calculated and drawn by experts in the same office, the building owner and principal contractor retain 100 % control over the complete structure.

Stendess can follow up on cross-border projects in accordance with most standards and codes: Eurocode, NBN, NEN, DIN, NF, AISC, British Standards and specific national codes.

Key activities

- Industrial buildings: steel factories, power plants, depots, etc,
- Other buildings: service buildings, concert halls, sport facilities, swimming pools, apartment buildings,
- Bridge constructions: arch bridges, cable –stayed bridges, suspension bridges, bascule bridges, swing bridges, orthotropic bridges, mixed steel-concrete bridges...
- Off-shore projects: lock gates, Roro, oil rigs...
- Industrial equipment: silos, cranes, crane ways, storage tanks...
- Erection engineering: longitudinal and transverse repositioning, skidding, lifting, bridge launching...

Locations of the constructions: Belgium, the Netherlands, France, Germany, United Kingdom, Spain, Sweden, Saudi Arabia, Greece, Singapore, Chile, Brazil, Cameroun, Russia, Thailand...

Office buildings for Drisag

Short Description

Along the high way E313 in Herentals an 'Office and Designpark' had to be designed and built for Drisag. Finding the balance between a low cost structure and taking into account the severe restrictions was a high creative demand in the static layout and the dimensioning of the structure. The remarkable building consists of three floors of 7 meters which have their proper function and which are connected together in one entity. The first floor in concrete is intended for the production and a 'cash and carry'. The middle transparent floor, with a big flight of stairs of 7 meters, possibly to be used as a presentation stand, acts as showroom. The third floor consists of 2 office buildings in red brick on each side, between them an outdoor sports complex and a spectacular roof garden with a tennis court on it.

Project Information

Owner: Groep Heylen
 Architect: B-Architecten
 General Contractor: Willy Naessens N.V.
 Engineering Office: Ingenieursbureau Stendess N.V.

Construction Start: 2008
 Construction End: 2008
 Location: Herentals, Belgium

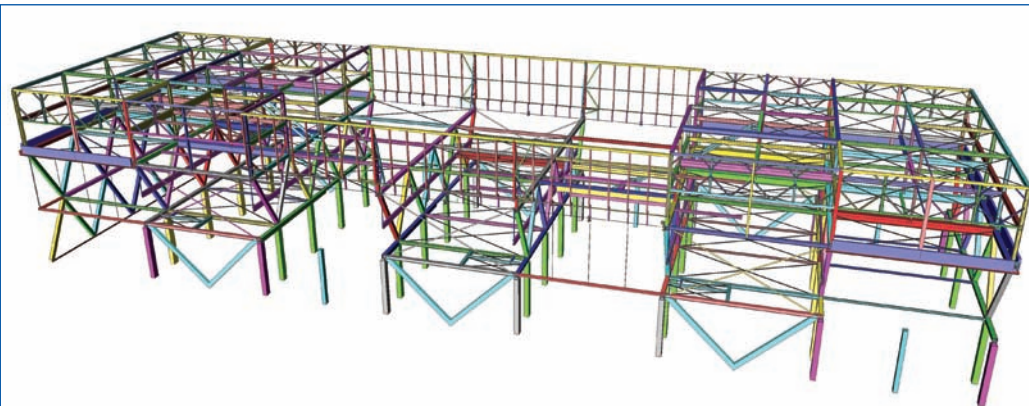


- Total steel weight: ± 900 tons
- Building period: 2008
- Dimensions: Height: +/- 21 m
- Overall length: +/- 104 m
- Overall width: +/- 31 m

Along the high way E313 in Herentals an Office and Designpark had to be designed and built for Drisag. The building consists of three floors of 7 meters which have their proper function and which are connected together in one entity. The first floor of concrete is intended for the production and a 'cash and carry'. The middle transparent floor, with a big flight of stairs of 7 meters, which can even be used as a

presentation stand, acts as showroom. The third floor consists of 2 office buildings in red brick on each side, between them an outdoor sports complex and a roof garden with a tennis court.

The see-through layer is build up with V-shaped white frames. The spans of 14,40 m with a minimum construction height of 400 mm were reached by using a combination of concrete floors with compact shaped steel beams. The detailing of the frames was an important aspect in the structure. An invisible connection of the bracings of the frames at the floor beams cross a challenge. To support the high glass walls, minimalistic horizontal steel boxes with a



Used software: ESA-Prima Win

minimum height of 100 mm were used. To guarantee the stability of these horizontal boxes, pretensioning with cables was needed. To support the business volume between level 14 m and 21 m, a complete framed steel structure was build.

Use of ESA-Prima Win

Description of technical questions to be solved with ESA-Prima Win

The challenge in this project was to design a low budget steel construction taking into account a minimal construction height and the severe restrictions that were to be met such as a minimal number of columns and bracings maximum free space inside the building. Finding the balance between a low cost structure and taking into account the severe restrictions was a high creative demand in the static layout and the dimensioning of the structure.

Description of our experience with ESA-Prima Win in realizing the project.

For this project ESA-Prima Win proved its power to calculate at high speed large structures with a great number of elements and a great number of combinations.

And more, ESA-Prima Win proved that even for large structures the non linear calculations could be done in an acceptable way and time.

Used modules

- Base
- 3D frame
- Non linear calculations
- Steel code check (EC3)

