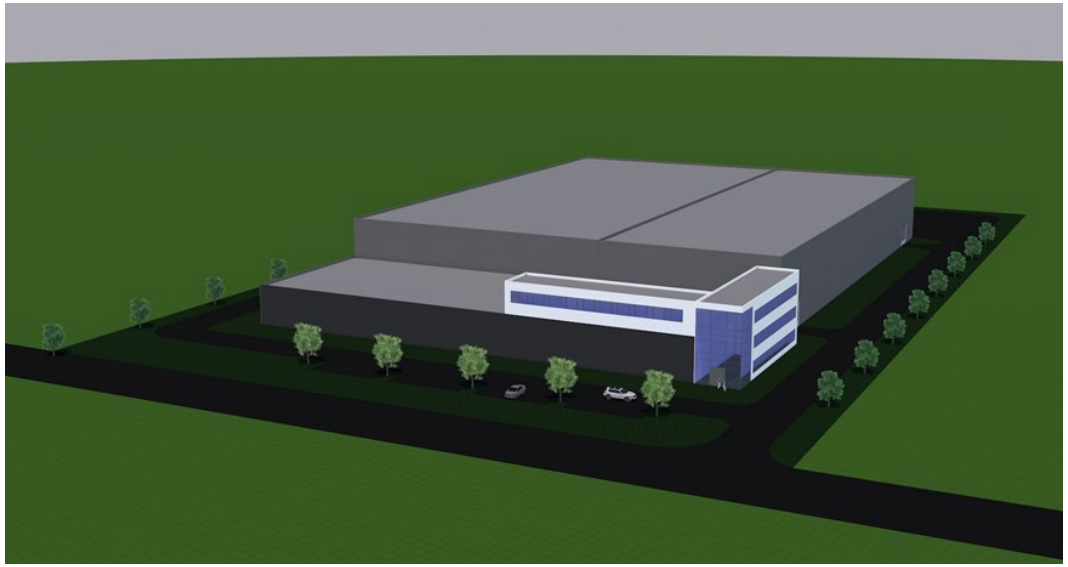

WENDLER
INSIDE
Because what´s inside counts.

Green factory according to LEED Standard



Wendler Interlining Vietnam Company Limited

Wendler Interlining Group – Executive Summary

Wendler inside

Founded 1843
Since 1974 specialization in interlining

Family-owned company

250 people (globally)

45% market share
in woven cotton interlinings

Woven interlinings (Cotton; Polyester)

Production in Germany, China, Bangladesh, India, Vietnam

Present in 78 countries

Offices:

Germany:	Wendler Einlagen GmbH & Co KG. (HQ)
Hong Kong:	Wendler Interlining H.K. Ltd.
China:	Wendler China Ltd.
Bangladesh:	FEM Wendler Interlining Ltd.
India:	Wendler Interlining Pvt. Ltd.
Italy:	Wendler Italia S.r.l.
Vietnam:	Wendler Interlining Vietnam Company Ltd.

www.wendlerinside.com
www.wendlerinside.it

What is LEED?

LEED, or **L**eadership in **E**nergy and Environmental Design, is the most widely used green building rating system in the world. Available for virtually all building, community and home project types, LEED provides a framework to create healthy, highly efficient and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement.

Lecture Tour (History & Schedule)

PROJECT: WENDLER INTERLINING VIETNAM FACTORY

This educational program aims to a wide range of target audience such as Public Media, Professionals and students in construction industry, Project's Suppliers, etc.

An educational outreach or our program is a good place to leverage what WENDLER INTERLINING VIETNAM FACTORY already done in preparing sign boards and case studies, to do additional outreach.

A schedule of education tour including lectures has been made since the project's early stage. During the project, a number of education activities and presentation have been organized and delivered to various types of stakeholders.

Presentation to Group management and Sub-contractors

04-06-2020 – Presentation to Group management and Sub-contractors

- Title: LEED ‘s concept and application in the project
- Presenter: Ms. Thu Nguyen
- Time: 02:00 pm – 04:00 pm
- Location: Wendler Interlining Vietnam Factory Project
- Content: why apply for LEED Gold for Project, and use energy efficiency for zero emission, water efficiency and HVAC system to save energy, etc.

Key attendants:

1. Mr. Bach Thanh An / Company: WENDLER VIETNAM / Title: General director
2. Ms. Hoa Doan / Company: WENDLER VIETNAM / Title: Head of People Engagement
3. Mr. Le Ke Duat / Company: AAC / Project Director
4. Team project members

Presentation to Group management and Sub-contractors

22-06-2020 – Presentation to Staffs

- Title: LEED ‘s concept and application in the project
- Presenter: Ms. Hoa Doan
- Time: 9:00 am – 11:00 am
- Location: Wendler Interlining Vietnam Factory Project
- Content: why apply for LEED Gold for Project, and use energy efficiency for zero emission, water efficiency and HVAC system to save energy, etc.

Key attendants:

1. Ms. Hoa Doan / Company: WENDLER VIETNAM / Title: Head of People Engagement
2. Mr. Bach Thanh An / Company: WENDLER VIETNAM / Title: General director
3. Mr. Harald Baeumle / Company: WENDLER GROUP / Title: Head of Technical
4. Staffs

Credit summary on DESIGN and CONSTRUCTION stage

No.	Category	CERTIFIED	GOLD	Remark
1	Integrative process	1		
2	Location and transportation	4		
3	Sustainable sites	7		
4	Water efficiency	9		
5	Energy and atmosphere	9	17	
6	Materials and resources	3	3	Total gained points: 6 6 gained points showing in Construction stage
7	Indoor environment quality	2		Total gained points: 2 1 gained point showing in Construction stage
8	Innovation	5		Total gained points: 5 1 gained point showing in Construction stage
9	Regional Priority	3	1	
	Total (for both Design + Construction)	**43**	**21**	
	Total points on design stage	38	15	
	Total points on construction stage	5	6	

BENEFIT OF LEED FACTORY

LANDSCAPE

We preserve and maintain the ecosystem health

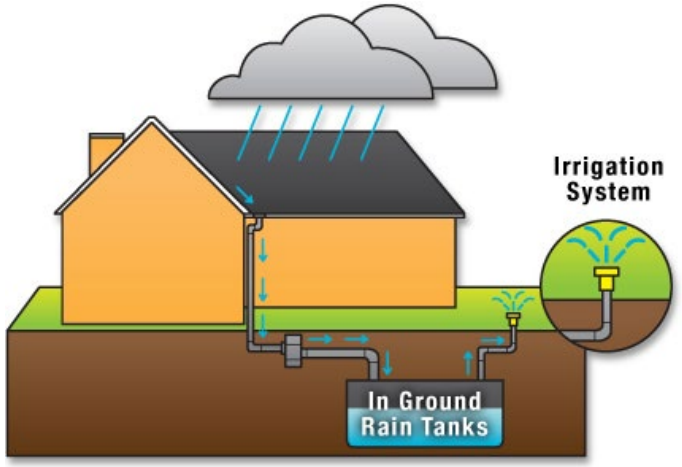
Good landscape design = Less water consumption

LANDSCAPE

- Restore more than 33% of previously disturbed area with native and adapted vegetation (trees, shrubs and groundcover) to provide habitat and promote biodiversity.
- No use the turfgrass to reduce water for irrigation.
- Good landscape design and use of native, adapted, and drought-tolerant plants can dramatically reduce and even eliminate the need for irrigation while better integrating the building site into its surroundings and attracting native wildlife.
- Native plants also tend to require less fertilizer and fewer chemical pesticides, which degrade water quality when carried away in stormwater runoff.

IRRIGATION SYSTEM

- Providing the water supply for irrigation from harvested rainwater help to reduce the municipal potable water.



BENEFIT OF LEED FACTORY

WATER

Higher efficiency fixtures and together with high performing

INDOOR

- Using the high-efficiency water fixtures/fittings.
- Including:
  - + Water closet with dual flush, 3 – 4.5 Liter per flush;
  - + Faucet with sensor: 1.5 Liters per minute
  - + Urinal: 1.9 Liters per flush
  - + Kitchen sink: 5.8 Liters per minute
  - + Showerhead: 7.5 Liters per minute.
- Water saving: 34% reduction from baseline

ALTERNATIVE WATER SOURCES

- Reuse treated wastewater from wastewater treatment plant of Industrial Park for domestic and flushing toilets
- Saving 100% municipal potable water consumption
- The aims to protect the natural water cycle and save water resources for future generations, increase water efficiency within buildings to reduce the burden on water supply and wastewater systems.
- Providing the water supply for irrigation from harvested rainwater help to reduce the municipal potable water.

BENEFIT OF LEED FACTORY

ENERGY

ENERGY SAVINGS

- Energy cost saving of 50%

HVAC

- Installing the Single split system with high efficiency supplies cooling to building.
- The benefits of using Single split system:
  - Better environmental stability-no water wastage
  - Reduce initial investment costs
  - Low maintenance and operation costs
  - Easier to operate
  - Use R-32 refrigerant to reduce ozone depletion

ENERGY - LIGHTENING

LIGHT FIXTURES

- All internal and external light fittings are LED type.

LIGHTING CONTROL

- Lighting in production areas are controlled by timer switch.
- Lighting in office areas are controlled by occupancy sensor combine with photo sensor.
- Lighting in storage, lockers, toilets are controlled by presence sensor.
- Increasing comfort for occupants, save energy.

EXTERNAL LIGHTING

- Be downwardly facing and reflector equipped for minimizing the light pollution.
- Be controlled by signal from timer switch.
- Be performed with protection class IP65.

OCCUPANCY SENSOR

120W

TIME SWITCH

BENEFIT OF LEED FACTORY

Wendler inside

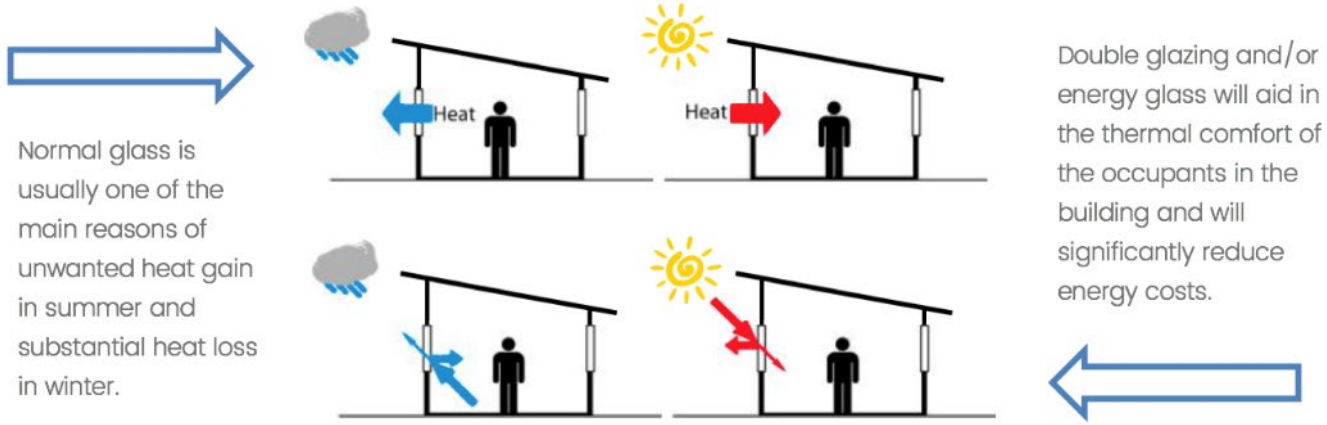
BUILDING ENVELOPE

GLAZING

- Using energy efficient glasses to contribute reducing absorbed solar radiance from outside to inside of building, therefore getting benefit in reduction investment cost for Air conditioning system, and operation cost for electricity bill.
- Using Solar control-glazing glass with U-value=3.88, SHGC=0.46
- Using the high-efficiency water fixtures/fittings.

OUTSIDE WALL

- Using insulated panel wall (50mm Glasswool) with U-value <0.7 to reduce the heat transferred from outside to inside of the building.



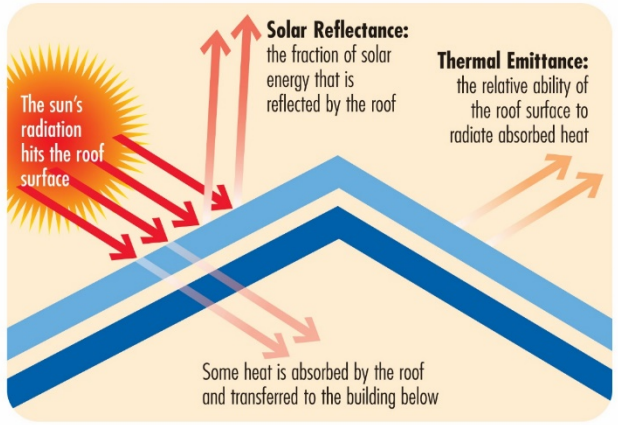
BENEFIT OF LEED FACTORY

Wendler inside

SOCIAL ENVIRONMENT

REDUCE HEAT LAND

- For the parking and utility: using the roof with higher SRI at 84 to reduce heat island effect.
- Thermatech solar reflectance technology is incorporated into white color to lower surface temperature (by up to 6 degree C) by adsorbing less heat from the sun.
- Using the concrete for the internal road with initial solar reflectance (SR) at 0.7 to keep the outdoor surface buildings cool.



WASTE MANAGEMENT

- Provide dedicated areas accessible to waste haulers and building occupants for the separation, collection, and storage of recyclable materials (mix paper, corrugated cardboard, glass, plastics and metals), hazardous waste area, organic waste area
- Take appropriate measures for safe collection, storage, and disposal.

BENEFIT OF LEED FACTORY

Wendler inside

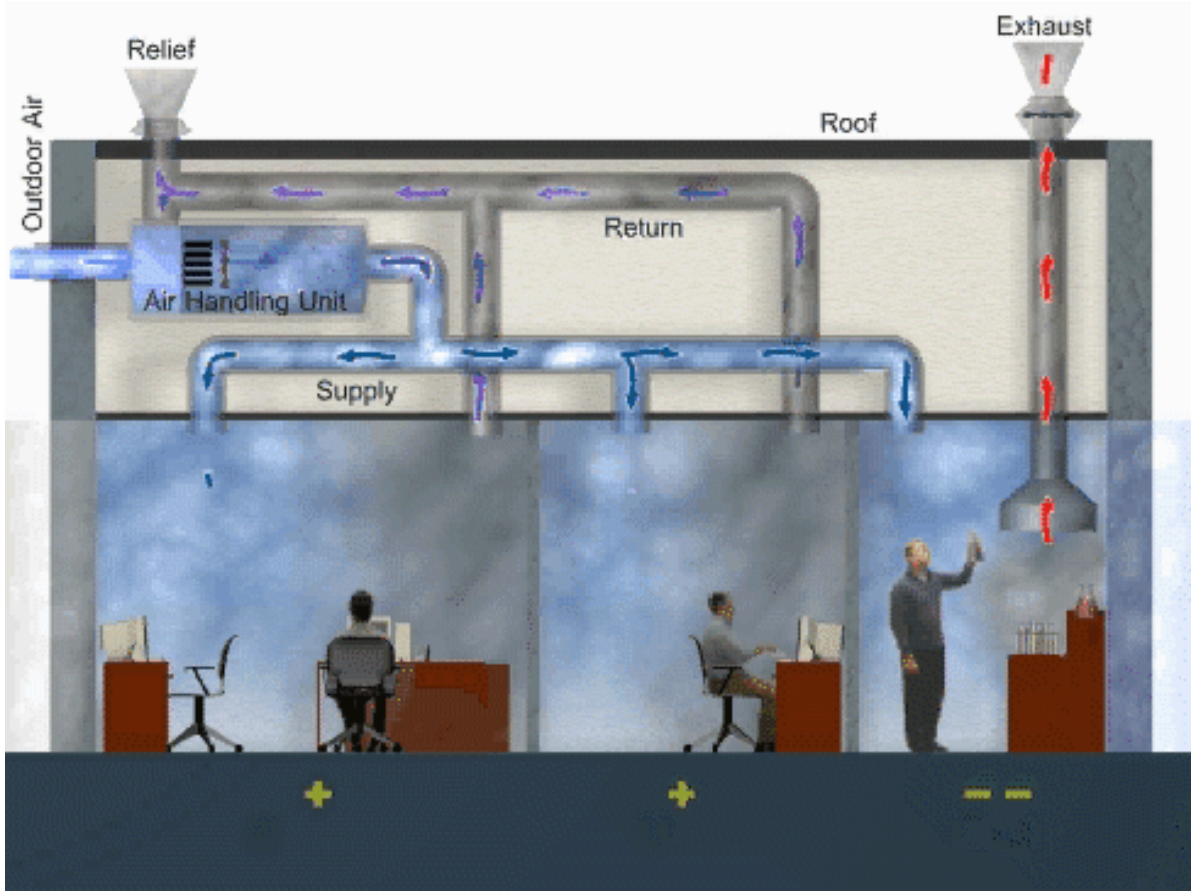
HEALTH

PROVIDING FRESH AIR

- Installing supply fans to supply fresh air for all occupancy spaces. Airflow switch is located at ventilation piping to monitoring outdoor airflow intake.
- Installing exhaust fans for manufacturing spaces and warehouse. CO2 sensor is located at there and alarm when CO2 concentration exceed more than 10% set-point

ENCREASING FRESH AIR

- Our project designs for effective Indoor Air Quality, increase outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates.



BENEFIT OF LEED FACTORY

HEALTH

NO-SMOKING POLICY

- Prohibits smoking inside the building.
- Design the smoking areas located nearby the Main gate and Trailer parking, at least 25 feet (7.5 meters) apart from all entries, outdoor air intakes, and operable windows.

TRANSPORTATION

- Design bicycle storage for users.
- Improve public health by encouraging utilitarian and recreational physical activity.
- Design at least 5% of all parking spaces for Green Vehicle, 5% for Carpool and 5% Electrical vehicle supply equipment (EVSE) to reduce pollution.
- Preferred parking spaces have the shortest walking distance to the main entrance.