



GreenGrey

by T.A. Group s.a.r.l



THE LEADER OF
A GREEN FUTURE

GREEN BROCHURE

I. T.A. GROUP - SUSTAINABLE CONSTRUCTION/ GREEN DESIGN

Tomorrow's habitat will comply with all dimensions of comfort. Everyone wants to enjoy a sense of well-being in their home, to feel safe, protected from the negative aspects of the outside world, comfortable and healthy.

T.A. Group provides solutions that make buildings more efficient in terms of their energy consumption, and which help contribute to saving the planet. Most of its solutions are already helping and will help even more in building a sustainable future through leading both the green building design and the sustainable building design.

Not Every Green Building Is Considered Sustainable!

Many like to use the words "green" and "sustainable" interchangeably when it comes to the dialog on eco-friendly building design. However, there are several differences between them to note.

Green building is not necessarily the same as sustainable design. Sustainable design refers to the design and construction of buildings in a way that meets the needs of today for housing, working environments and infrastructure without compromising the ability of future generations to meet their own needs in times to come. It incorporates elements of economic efficiency, environmental performance and social responsibility – and contributes to the greatest extent when architectural quality, technical innovation and transferability are included.

However, with green building, the focus is often limited to environmental impacts. A "green" building is not always considered "sustainable". A building is green when it helps to minimize its environmental footprint by including the use of renewable energy sources such as wind, water, or solar.

A **green building** also involves creating a healthy indoor environment for example with natural ventilation systems and construction materials that minimize the use of volatile organic compounds (VOCs) in the building.

Indeed, true sustainable design considers the economic and social aspects of the design in addition to the environmental impacts and looks to balance this "triple bottom line." Sustainable building design is a holistic look at the entire building process.

I. T.A. GROUP - SUSTAINABLE CONSTRUCTION/ GREEN DESIGN

GREEN BUILDING

Green building is firmly established in the commercial new construction market, and demand for green building materials continues to grow. As of April 2014, the U.S. Green Building Council (USGBC®) has certified 3 billion square feet of building space throughout the world. Numerous federal government agencies and state governments have enacted green building initiatives. In many cases, these initiatives move beyond voluntary measures to actual LEED® certification requirements for public and in some cases, private, new construction.

GreenGrey

GreenGrey is the green label of T.A. Group S.A.R.L., a trade mark registered by the Lebanese Ministry of Economic and Commerce. **GreenGrey** will identify each and every product, system, service, application or design that may help reducing environmental impacts preserving the right of the future generations in meeting their needs within an appropriate and natural environment.

In other words, **GreenGrey** reflects the Green Identity of T.A. Group.

This report introduces the prerequisites and credits listed in LEED v4 BD+C, the newest version of the Leadership in Energy and Environmental Design for New Construction and Major Renovation, and examines their connection with T.A. Group products and solutions.

SUMMARY OF LEED® CREDITS FOR T.A. GROUP PRODUCTS

1. SUMMARIZED LIST OF POSSIBLE CREDITS EARNED PER EACH BRAND

✓ KRYTON

▪ SUSTAINABLE SITES

- Credit 2 - Site Development: Protect or Restore Habitat (2 POINTS)
- Credit 5 - Heat Island Reduction: Roof (1 POINT)

▪ MATERIALS & RESOURCES

- Credit 5 - Construction and Demolition Waste Management (1 POINT)

▪ INDOOR ENVIRONMENTAL QUALITY

- Credit 2 - Low-Emitting Materials: Paints & Coatings (1 POINT)

▪ INNOVATION AND DESIGN PROCESS

- Credit 1 - Innovation in Design (1 POINT)

✓ FORTA-FERRO PERVIOUS CONCRETE

▪ SUSTAINABLE SITES

- Credit 4: Rainwater Management (1-3 POINTS)
- Credit 5: Heat Island Reduction (1-2 POINTS)

▪ WATER EFFICIENCY

- Credit 1: Outdoor Water Use Reduction (1-2 POINTS)

▪ MATERIAL AND RESOURCES

- Credit 3: Building Product Disclosure and Optimization – Sourcing of Raw Materials (1-2 POINTS)

SUMMARY OF LEED® CREDITS FOR T.A. GROUP PRODUCTS

✓ LATERLITE

▪ SUSTAINABLE SITES

- Credit 4 - Rainwater Management **(1-3 POINTS)**
- Credit 5 - Heat Island Reduction **(1-2 POINTS)**

▪ WATER EFFICIENCY

- Credit 1 - Outdoor Water Use Reduction
 - Option 1: No irrigation required **(1-2 POINTS)**
 - Option 2: Reduced irrigation **(1-2 POINTS)**

▪ ENERGY AND ATMOSPHERE

- Prerequisite 2 - Minimum Energy Performance
- Credit 2 - Optimize Energy Performance
 - Option 1: Whole building energy simulation **(1-18 POINTS)**
 - Option 2: Prescriptive compliance (ASHRAE Advanced Energy Design Guide) **(1-6 POINTS)**

▪ MATERIALS AND RESOURCES

- Prerequisite 2 - Construction and Demolition Waste Water Management
- Credit 1 - Building Life-cycle impact Reduction
 - Option 1: Historic building reuse **(1-5 POINTS)**
 - Option 2: Renovation of abandoned or blighted building **(1-5 POINTS)**
 - Option 3: Building and material reuse **(2-4 POINTS)**
 - Option 4: Whole-building life-cycle assessment **(1-3 POINTS)**
- Credit 3 - Building Product Disclosure and Optimization – Sourcing of Raw Materials
 - Option 1: Raw material source and extraction reporting **(1 POINT)**
 - Option 2: Leadership extraction practices **(1 POINT)**
- Credit 5 - Construction and Demolition Waste Management
 - Option 1: Diversion **(1-2 POINTS)**
 - Option 2: Reduction of total waste material **(2 POINTS)**

▪ INDOOR ENVIRONMENTAL QUALITY

- Credit 5 - Thermal Comfort
 - Option 1. ASHRAE Standard 55-2010 **(1 POINT)**
 - Option 2. ISO and CEN Standards **(1 POINT)**

SUMMARY OF LEED® CREDITS FOR T.A. GROUP PRODUCTS

✓ FOAMGLAS®

▪ SUSTAINABLE SITES

- Credit 4 – Rainwater Management **(1-3 POINTS)**
- Credit 5 – Heat Island Reduction **(1-2 POINTS)**

▪ ENERGY AND ATMOSPHERE

- Prerequisite 2 – Minimum Energy Performance
- Credit 2 - Optimize Energy Performance **(1-18 POINTS)**

▪ MATERIALS AND RESOURCES

- Credit 2 - Building Product Disclosure and Optimization- Environmental Product Declarations (EPD) **(1-2 POINTS)**
- Credit 3 - Building Product Disclosure and Optimization - Sourcing of Raw Materials
 - Option 2: Leadership extraction practices (European Union plants) **(1 POINT)**
- Credit 4 - Building Product Disclosure and Optimization - Material Ingredients
 - Option 1: Material ingredient reporting - subject to publication of CASRN **(1 POINT)**
 - Option 2: Material ingredient optimization - subject to successful completion of Green Screen Benchmark 1.2 **(1 POINT)**
- Credit 5 – Construction and Demolition Waste Management
When the project site is within 100 miles of the manufacturing location, FOAMGLAS® insulation may also qualify as a regional material as part of MR credits 2, 3 and 4. **(1-2 POINTS)**

▪ INDOOR ENVIRONMENTAL QUALITY

- Credit 2 – low-emitting materials **(1-3 POINTS)**
PC® RTV 450 Silicone Adhesive, PC®99 Adhesive, PITTSEAL® 444N, and PITTSEAL® CW Sealant can contribute toward LEED® v4 Credit on IEQ Credit 2, Low-Emitting Materials.

SUMMARY OF LEED® CREDITS FOR T.A. GROUP PRODUCTS

✓ ISOLGOMMA

▪ ENERGY AND ATMOSPHERE

- Prerequisite 2 - Minimum Energy Performance
- Credit 2 - Optimize Energy Performance
 - Option 1: Whole building energy simulation **(1-18 POINTS)**
 - Option 2: Prescriptive compliance (ASHRAE Advanced Energy Design Guide) **(1-6 POINTS)**

▪ MATERIAL AND RESOURCES

- Prerequisite 2 - Construction and Demolition Waste water Management
- Credit 5 - Construction and Demolition Waste Management
 - Option 1: Diversion **(1-2 POINTS)**
 - Option 2: Reduction of total waste material **(2 POINTS)**
- Credit 3 - Building Product Disclosure and Optimization – Sourcing of Raw Materials
 - Option 1: Raw material source and extraction reporting **(1 POINT)**
 - Option 2: Leadership extraction practices **(1 POINT)**

▪ INDOOR ENVIRONMENTAL QUALITY

- Credit 9 - Acoustic Performance
 - Option 1: For each room, confirm that the total surface area of acoustic wall panels, ceiling finishes, and other sound-absorbent finishes equals or exceeds the total ceiling area of the room (excluding lights, diffusers, and grilles). Materials must have an NRC of 0.70 or higher to be included in the calculation. **(1 POINT)**
 - Option 2: Confirm through calculations described in ANSI Standard S12.60-2010 that rooms are designed to meet reverberation time requirements as specified in that standard. **(1 POINT)**

SUMMARY OF LEED® CREDITS FOR T.A. GROUP PRODUCTS

✓ SAINT-GOBAIN CALIFORNIA RANGE OF PRODUCTS

▪ SUSTAINABLE SITES

- Credit 5 - Heat Island Reduction - Roofs **(1-2 POINTS)**

▪ INDOOR ENVIRONMENTAL QUALITY

- Credit 2 - Low Emitting Materials **(1-3 POINTS)**
- Credit 5 - Thermal Comfort **(1 POINT)**

SUMMARY OF LEED® CREDITS FOR T.A. GROUP PRODUCTS

2. SUMMARIZED LIST OF POSSIBLE CREDITS EARNED WHEN USING T.A. GROUP PRODUCTS

- **SUSTAINABLE SITES**
 - Credit 2 – Site Development: Protect and Restore Habitat **(1-2 POINTS)**
 - Credit 4 - Rainwater Management **(1-3 POINTS)**
 - Credit 5 - Heat Island Reduction **(1-2 POINTS)**

- **WATER EFFICIENCY**
 - Credit 1 - Outdoor Water Use Reduction **(1-2 POINTS)**

- **ENERGY AND ATMOSPHERE**
 - Prerequisite 2 - Minimum Energy Performance
 - Credit 2 - Optimize Energy Performance **(1-18 POINTS)**

- **MATERIALS AND RESOURCES**
 - Prerequisite 2 - Construction and Demolition Waste Water Management
 - Credit 1 - Building Life-cycle impact Reduction **(1-5 POINTS)**
 - Credit 2 – Building Product Disclosure and Optimization – Environmental product Declarations (EPD) **(1-2 POINTS)**
 - Credit 3 - Building Product Disclosure and Optimization – Material Ingredients **(1-2 POINTS)**
 - Credit 4 - Building Product Disclosure and Optimization – Sourcing of Raw Materials **(1-2 POINTS)**
 - Credit 5 - Construction and Demolition Waste Management **(1-2 POINTS)**

- **MATERIALS AND RESOURCES**
 - Prerequisite 2 - Construction and Demolition Waste Water Management
 - Credit 1 - Building Life-cycle impact Reduction **(1-5 POINTS)**
 - Credit 2 – Building Product Disclosure and Optimization – Environmental product Declarations (EPD) **(1-2 POINTS)**
 - Credit 3 - Building Product Disclosure and Optimization – Material Ingredients **(1-2 POINTS)**
 - Credit 4 - Building Product Disclosure and Optimization – Sourcing of Raw Materials **(1-2 POINTS)**
 - Credit 5 - Construction and Demolition Waste Management **(1-2 POINTS)**

- **INDOOR ENVIRONMENTAL QUALITY**
 - Credit 2 – Low-emitting Materials **(1-3 POINTS)**
 - Credit 5 - Thermal Comfort **(1 POINT)**
 - Credit 9 - Acoustic Performance **(1 POINT)**
- **INNOVATION AND DESIGN**
 - Credit 1 – Innovation in Design **(1 POINT)**

A TOTAL RANGE OF (14 – 46) POINTS MAY BE EARNED WHEN USING T.A. GROUP PRODUCTS AND SYSTEMS.

REFERENCES

- LEED V4 FOR BUILDING DESIGN AND CONSTRUCTION GUIDE UPDATED TO REFLECT THE APRIL 5 2016 LEED V4 BUILDING DESIGN ADDENDA
- WWW.USGBC.ORG
- WWW.LEEDUSER.COM
- WWW.KRYTON.COM
- WWW.FORTA-FERRO.COM
- WWW.LATERLITE.COM
- WWW.FOAMGLAS.COM
- WWW.ISOLGOMMA.COM
- WWW.SAINT-GOBAIN.COM

COPYRIGHT © 2017

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of TA group S.A.R.L., except for the use of brief quotations in a book review.

TA GROUP S.A.R.L.



LEBANON | KUWAIT | QATAR

Sukkar & Suleiman Bldg., Makdissi Str., **P.O.box** 13-5095, Beirut, Lebanon
Tel +961 (1) 350 271 | +961 (70) 600 355 **Fax** +961 (1) 343 708 **Email** info@tagroup.com.lb
TA GROUP S.A.L (OFFSHORE) Tel +961 (1) 704 104