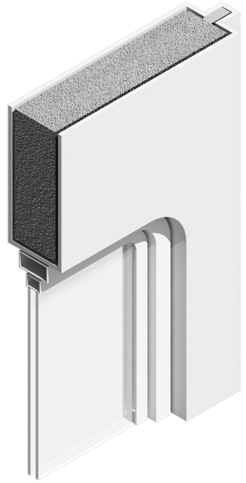
LifeArk Material

What is HDPE?

- Thermoplastic polymer used in a wide variety of applications: plastic bottles, milk jugs, cutting boards, furniture, automobile parts, lockers, bathroom partitions, kayaks, boats, industrial piping, trash bins, water tanks
- High melting point
- Does not contain BPA, heavy metals, or allergens
- Resistant to mold, mildew, bacteria, UV, corrosion
- High compressive strength, lightweight, high tensile strength, fire resistant
- Most common and easiest polymers to recycle (#2 plastic)
- Recyclable at the end of its life

LifeArk modules are made from an HDPE shell insulated with a HDPU foam resulting in high thermal resistance. LifeArk uses up to ***30% post-consumer recycled plastic*** in the material formulation – this is plastic that is used and discarded by consumers. The source of our recycled materials comes from stretch wrap and packaging from the global shipping industry.



LifeArk™

Traditional Building Materials

A sustainable substitute for high-emissions construction materials:

- Steel wood and concrete are the main building materials used in the construction industry today

- Concrete is one of the most energy-intensive products due to its heavy manufacturing process involving baking aggregates and limestone at high temperatures: 1kg of cement sends 1kg of CO2 into the atmosphere

- Traditional building materials come with a hefty environmental footprint: manufacturing, transporting, and installing them in construction projects are highly carbon intensive. According to *United Nations Environment Programme* and the *Global Alliance for Buildings and Construction*, the building materials sector accounted for about 10% share of all greenhouse gas (GHG) emissions globally in 2019. *(Strategy&-PWC / United Nations Environment Programme)*

LifeArk™

Using Recycled Plastics in Construction

Plastic is being used in the wrong way: single-use plastics account for one of the largest environmental pollutants. The construction industry is investing more resources into utilizing unconventional building materials to build faster and more sustainably:

- 45% of post-consumer recycled plastics are used in some capacity in building and construction *(Europe Plastics)*

- Nearly 40% of our nation's energy is consumed in our homes and buildings. Heating and cooling account for most of the energy used in a typical U.S. home, but much of it is wasted due to outdated building practices. *(Plasticmakers.org)*

- Energy saved by using plastic building and construction materials in one year is enough to meet the average annual energy needs of 4.6 million U.S. households. *(Plasticmakers.org)*

LifeArk™

LifeArk Certifications and Approvals

LifeArk is certified by **IAPMO-UES**, an American National Standards Institute (ANSI) accredited product evaluation agency, and the **Housing and Community Development (HCD) Factory-Built Housing Program and Commercial Modular Program.**

LifeArk modulars were tested and certified under Evaluation Criteria for HDPE and Foam Composite Building Material EC-035 and assessed for **Quality, Strength, Effectiveness, Fire Resistance, Durability, and Safety** including fire safety, life safety, seismic, lateral, wind, and chemical resistance, outdoor weathering and UV, and more. LifeArk modulars were tested against 18 ASTM Standard Tests and 7 ISO/TR, NFPA, and UL Standards. LifeArk's **Evaluation Report ER-560** certifies compliance with all code provisions in the following:

- 2021, 2018, and 2015 International Building Code (IBC)
- 2021, 2018, and 2015 International Residential Code (IRC)
- 2022 and 2019 California Building Code (CBC)
- 2022 and 2019 California Residential Code (CRC)

All LifeArk projects are approved by the state (HCD) **2022 California Green Building Standards Codes,** which require compliance with strict mandatory residential green building standards.

LifeArk™