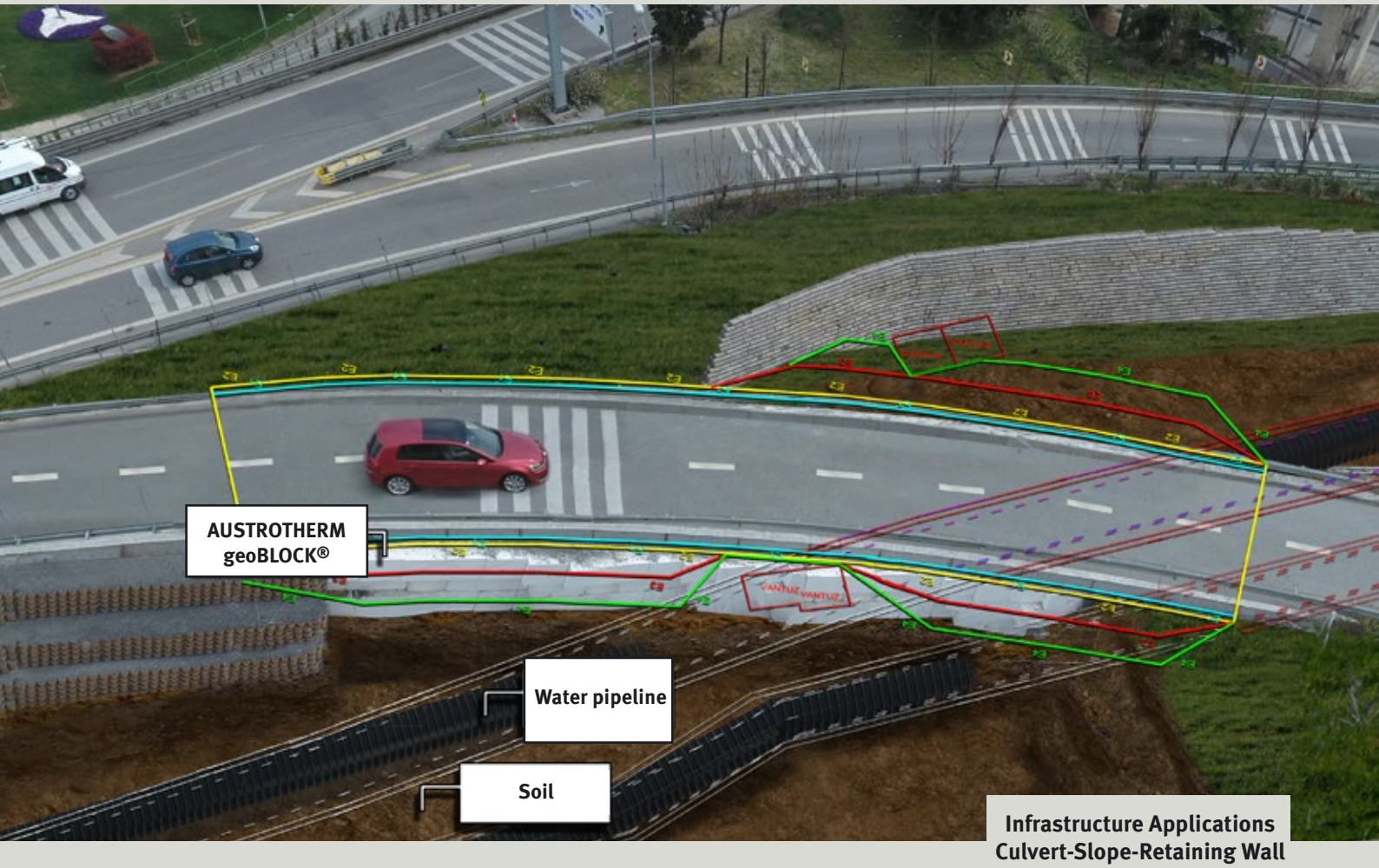
AUSTROTHERM
Yalıtım Malzemeleri

AUSTROTHERM geoBLOCK®

Expanded Polystyrene (EPS) Block



Infrastructure Applications
Culvert-Slope-Retaining Wall

Expanded Polystyrene (EPS) Block

- Very low water absorption capacity.
- Dimensionally stable.
- Non-biodegradable.
- High strength/density ratio.

AUSTROTHERM geoBLOCK®

Product Brochure- Infrastructure Applications

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Description

Austrotherm geoBLOCK® is an expanded polystyrene (EPS) block, which is manufactured as the result of pre-expansion and molding of granular polystyrene beads, used in geotechnical engineering applications.

Areas of use of Austrotherm geoBLOCK®;

- Retaining structure backfills,
- Embankments to be constructed on culverts,
- Tunnel portal backfills,
- Embankments over buried pipelines and infrastructures,
- Slope stability and rehabilitation

Quality Documents

CE Complies with TS EN 14933.

Warning

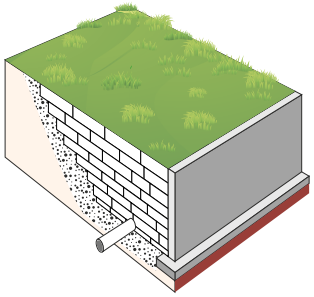
Avoid contact with solvents.

Technical Specifications

- White color
- 20kg/m^3, 30kg/m^3 and any densities in between
- Compressive strength:
  For 16kg/m^3, CS(1) ≥ 25 kPa,
  For 20kg/m^3, CS(1) ≥ 40 kPa,
  For 30kg/m^3, CS(1) ≥ 75 kPa
- Water Absorption Rate WL(T) 2≤ %2
- Dimensions:
  500 mm x 1200 mm x 2500 mm
  600 mm x 1000 mm x 2500 mm
  Custom dimensions can be prepared based on block placement plans.
- Bending Strength
  For 16kg/m^3, BS ≥ 125 kPa,
  For 20kg/m^3, BS ≥ 150 kPa,
  For 30kg/m^3, BS ≥ 200 kPa

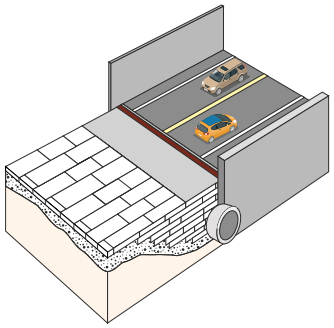
How Eps Blocks Are Used In Constructing Retaining Walls ?

Retaining walls are engineering structures that prevent lateral movement of the earth mass retained as backfill. Therefore, the lateral earth pressures applied by the backfill are the main design criteria for these structures. Lateral earth pressures can significantly be minimized by placing geoBLOCKs adjacent to retaining walls as a part of backfill. Depending on the geotechnical design principle, geoBLOCKs can be placed in a “wedge” or “panel” configurations behind the retaining walls. Reducing the lateral loads by using geoBLOCKs results reduction in the dimensions of reinforced concrete retaining walls. geoBLOCK application design philosophy ensures both the reduction in total cost and completion time of the retaining wall compared to traditional compacted earth backfill application. geoBLOCK is also a vibration absorber. Therefore, it is an engineering solution that ensures reduction of not only the static forces that affect on the retaining wall, but also the dynamic forces to be generated by possible earthquakes.



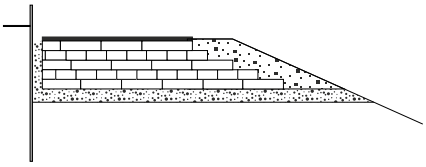
How EPS Blocks are Used in Highway Fills Over Culverts?

Culverts are engineering structures that are built for ensuring flowing of surface waters in slope direction under both highway and railway embankments. Culverts can be made from reinforced concrete, steel pipes or a polymer based material. Engineering design of culverts considers the load of the embankment and superstructure to be placed over them and also the traffic load, if any. Vertical stress over the culverts can significantly be minimized by constructing embankment with geoBLOCKs rather than compacted earth fill which leads to an economic culvert design. Depending on the geotechnical principle that constitutes a basis for the design, geoBLOCK may also be used partially over the culvert. Partial geoBLOCK configuration may be preferred in situations where fill heights are much larger than the width of culverts. Due to the lightweight feature, geoBLOCK provide economical culvert designs.



How EPS Blocks are used in Slope Stability Applications?

Stability of natural slopes and engineering slopes are one of the main problems encountered in many Civil Engineering projects. Various mechanical slope/soil improvement methods are used by Geotechnical Engineers to increase the slope stability. Mechanical improvement methods are designed based on increasing the resisting forces against the driving forces which causes instability. As an alternative, lightweight geoBLOCKs are utilized to decrease driving forces that causes slope failures. Therefore overall factor of safety of slopes can significantly be improved.



For site-specific technical support and specification needs for your project, you can contact our “Austrotherm geoBLOCK® Civil Engineering Applications” department.

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