

## **IS 17483 (Part 1): 2020**

The Indian Standard IS 17483 (Part 1): 2020 specifies material properties and specifications that are required for the use of high-density polyethylene (HDPE) geocells for load bearing applications such as flexible pavements, reinforcements in railways, basal reinforcements below reinforced soil structures, conventional embankments on weak soils and industrial flooring and shallow foundations etc.

Geocells are three-dimensional, permeable, polymeric (synthetic or natural) honeycomb, or similar cellular structure, made of linked strips of geosynthetics.

The standard outlines the necessary material properties, including density, environmental resistance, and carbon black content to protect against UV degradation. Geocells must also have specific dimensions, texture, and perforation requirements to ensure optimal load distribution and friction with infill materials. Manufacturing guidelines specify ultrasonic welding for cell assembly to achieve uniform seam strength, with minimum seam strength and retention rates after environmental stress tests. The document includes criteria for marking, packaging, sampling, and conformity, ensuring traceability and quality control in manufacturing and usage. It also emphasizes safe handling and storage conditions to maintain geocell integrity before installation.