

Geosynthetics- Synthetic Polymer Rope Gabions for coastal and Waterways protection IS 17880:2022

Gabion means big cage, and are robust structures. Their evolution to simple military fortification to modern day landscaping and civil engineering marvels is a journey of innovation and adaptation. In context of this standard Gabion is a synthetic polymer wire gauge or box filled with material such as stones, concrete, sand, or soil. Standard is for synthetic polymer gabions made from polypropylenes ropes which are manufactured from ultra violet stabilised polypropylene of black colour and 4 strand shrouds laid. It should be inert to commonly encountered chemicals, resistant to rot and mildew.

Customer mainly looks for breaking strength in various atmospheric, coastal and hostile environments

Two types of gabions are there, Type 1- aperture 100 mm and Type2- aperture 150 mm. The manufacture of polypropylene rope gabion woven into a continuous integral structure by intersecting one side of the rope to the opposite direction of the rope to form netting of designed size by the spacing process. Constructional and Performance requirements of Rope Gabions are laid down viz 1. Mesh opening size, 2. Rope diameter, 3. Linear density of the rope, 4. Mass of Gabion, 5. Breaking strength of rope, 6. Breaking strength after abrasion resistance of rope, 7. Breaking strength after thermal stability, 8. Rope net strength, 9. Punching shear strength 10. Retention in breaking strength of rope after uv exposure, 11. Retention in breaking strength of rope after exposure to saline water cycle corrosion.

These shall be applied for coastal and waterways protection applications such as revetments, river training, construction of groynes, artificial reefs, toe retaining wall in order to minimize soil erosion and control floods.