

Tensar AR-G Composite Model Specification

1. The reinforcing grid/fabric composite shall be manufactured in accordance with a Quality Management System which complies with the requirements of BS EN ISO 9001:2000. If required by the Engineer, the Contractor shall provide evidence that the manufacturer's Quality Assurance System has been certified to conform with BS EN ISO 9001:2000 by an external authenticating authority approved by the Department of Trade and Industry.
2. The reinforcing grid/fabric composite shall consist of a reinforcing grid thermally bonded to a paving fabric at the grid nodes
3. The paving fabric shall be a non-woven geotextile manufactured from polypropylene/polyester. It shall weigh approximately 130 gm/m² and have a material thickness, without load, of approximately 1mm. The maximum shrinkage of the fabric, determined as the free relaxation in a forced circulation hot air oven at 150°C for 3 mins, shall be 2% in the longitudinal direction and 1% in the transverse direction.
4. The reinforcing grid shall be a grid manufactured from polypropylene sheet, oriented in two directions so that the resulting ribs shall have a high degree of molecular orientation which continues through the area of the integral node.
5. The ribs of the reinforcing grid shall be of rectangular cross section in both the longitudinal and transverse directions with a typical minimum rib thickness of 0.8mm. The geogrid aperture size shall be approximately 61mm x 61mm.
6. The Quality Control Strength of the reinforcing grid [expressed as the lower 95% confidence limit in accordance with ISO 2602:1980 (BS 2846:Part 2:1981)] shall be 20.0 kN/m with peak strain of about 10.0% and 12.0% in the longitudinal and transverse directions respectively at that load, when tested in accordance with BS EN ISO 10319:1996.

In addition, the loads at 2% and 5% strain [expressed as the lower 95% confidence limit in accordance with ISO 2602:1980 (BS 2846:Part 2:1981)] shall be 7.0 kN/m and 14.0 kN/m respectively in the longitudinal direction and 8.0 kN/m and 15.0 kN/m respectively in the transverse direction.
7. The typical strength of the nodes between the longitudinal and transverse ribs of the reinforcing grid, as determined by the Geosynthetics Research Institute, Drexel University, USA, Test Method GG2-87, shall be not less than 95% of the Quality Control Strength in both longitudinal and transverse directions.
8. The reinforcing element shall be inert to all chemicals naturally found in soils and shall have no solvents at ambient temperature. It shall not be susceptible to hydrolysis, shall be resistant to aqueous solutions of salts, acids and alkalis, shall be non-biodegradable and shall have a minimum of 2% finely divided carbon black, as determined by BS 2782:Part 4:Method 452B:1993, well dispersed in the polymer matrix to inhibit attack by ultra violet light.
9. The maximum shrinkage of the reinforcing grid, determined as the free relaxation in a forced circulation hot air oven at 140°C for 30 mins, shall be 4% in either direction.

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