DEW POND CREATION

- You should ensure any relevant consents are gained before carrying out the work e.g. Planning Permission from the Local Authority or consent from the Environment Agency.
- The design of the pond is dependent on the ecological objectives, which should be identified before work commences. Peg out the edge before starting so that it is clear what shape is wanted.
- If the pond is to hold water permanently it should be excavated to have a variety of water depths from very shallow margins to pools of between 1 and 2 metres deep. These will provide habitats for different types of plants and animals.
- To avoid the pond drying out in summer months, it is recommended that minimum dimensions should be 18 m x 18 m.
- The pond should usually be constructed with gently sloping margins (maximum 1:4 slope), to create a large drawdown zone and extensive shallows. Some steeper banks may be of value for species such as water vole. Excavated surfaces should be left rough.
- Disposal of spoil should be carefully considered. You may require Environment Agency consent to put spoil in a flood plain. Where possible, spread spoil thinly across land away from the pond. Do not use it to form a mound or bank around the pond. Do not use spoil to fill and level adjacent wet areas or dispose of spoil on any sites of archaeological or ecological value.
- Once the profile of the pond has been established, excavate a 400 mm x 400 mm trench around the circumference of the pond, to act as an anchoring point for the liner. Lay 10 tonne of dug sand over the base of the pond to any areas which are particularly stony and cover this with a protective underlay in preparation to receive the butyl liner.
- Cover the whole area of the pond with a butyl liner (specification attached) and then a protective overlay, ensuring that the liner and the overlay also line the surrounding anchor trench. Lay 300 mm of topsoil over the final pond overlay using locally sourced soil. Backfill the anchor trench and blend in the topsoil around the circumference of the pond to ensure that all introduced materials are completely covered and not visible at any point.
- There is a presumption against fencing around a pond except adjacent to intensive grassland, although partial fencing that excludes stock from part of the pond may be considered. If fencing is required, it should be placed at least 1 metre away from the bank top.
- It is usually unnecessary to plant up ponds following restoration. No plants or animals should be introduced until at least one year after construction. Fish, wildfowl and non-native plants must not be artificially introduced. Do not feed wildfowl in or around the pond.
- Do not plant trees or shrubs anywhere around a pond.
- If necessary, re-seed the area around the pond with a mix of native grass and wildflower species.

NW 25

Needle punched and thermally bonded non-woven polypropylene geotextile

Technical data sheet according to internal specifications Bonar TF: version 04 dd. 01/12/09
Accompanying documents CE marking: version 04 dd. 01/12/09

CE

1137-CPD-615
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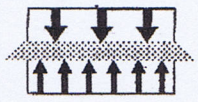
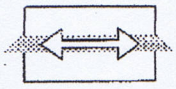
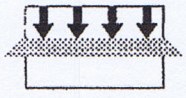
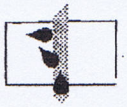
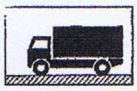
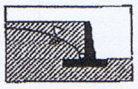
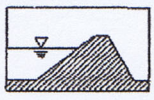
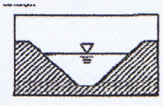
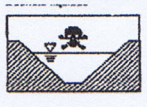
				
separation	**filtration**	**reinforcement**	**protection**	**drainage**

	test method	value	tolerance
Mechanical properties			
Tensile strength MD	EN ISO 10319	**25,0 kN/m**	-3,3 kN/m
Tensile strength CD		**25,0 kN/m**	-3,3 kN/m
Elongation MD	EN ISO 10319	**50,0 %**	+/-11,5 %
Elongation CD		**50,0 %**	+/-11,5 %
Static puncture resistance – CBR	EN ISO 12236	**4,00 kN**	-0,80 kN
Dynamic perforation resistance – cone drop	EN ISO 13433	**11,0 mm**	+2,2 mm
Protection efficiency	EN ISO 14574	**300,0 N**	-60,0 N
Hydraulic properties			
Water permeability normal to the plane	EN ISO 11058	**55x10-3 m/s**	-17x10-3 m/s
Water flow normal to the plane (*)		**55 l/m².s**	-17 l/m².s
Water flow capacity in the plane 20 kPa	EN ISO 12958	**8 x10-6 m²/s**	-10% log g
Characteristic opening size (AOS)	EN ISO 12956	**70,0 µm**	+/-21,0 µm
Physical properties			
Thickness under 2 kPa (*)	EN ISO 9863-1	**2,00 mm**	+/-0,40 mm
Weight (*)	EN ISO 9864	**300,0 g/m²**	+/-30,0 g/m²
Composition	100 % polypropylene non-woven geotextile		
Durability	predicted to be durable for a minimum of 25 years in natural soil with 4 < pH < 9 and soil temperatures < 25° C		

				
roads EN 13249:2000	**railways** EN 13250:2000	**foundations & retaining walls** EN 13251:2000	**drainage systems** EN 13252:2000	**erosion control systems** EN 13253:2000
				
reservoirs & dams EN 13254:2000	**canals** EN 13255:2000	**Tunnels & under-ground structures** EN 13256:2000	**solid waste** EN 13257:2000	**liquid waste** EN 13265:2000

1. This geotextile is intended for use in both functions & applications highlighted with a bold border.
2. It is the responsibility of all users to satisfy themselves that the above data is current.
3. Roll dimensions are 5,25 m x 100 m. Other dimensions on demand.
4. Bonar Technical Fabrics reserves the right to alter product specifications without prior notice.
5. Although not guaranteed, these results do to the best of our knowledge offer a true and accurate record of the product's performance.
6. Bonar Technical Fabrics cannot accept responsibility for the performance of these products as the conditions of use are beyond our control.
7. Geotextile has to be covered within 2 weeks after installation

(*) Not mandated characteristics for CE marking.

BONAR TECHNICAL FABRICS
invisibly good

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