

ANNEX D

DETAILS OF MANUFACTURER/ SUPPLIER'S SPECIFICATION AND PROJECT REFERENCES



SG WOVEN GEOTEXTILES

we under^{cover} the world

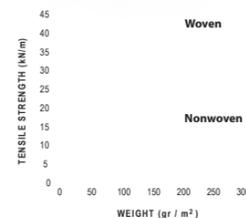
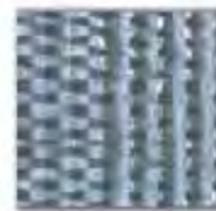
A TOTAL RANGE OF GEOTEXTILES

Headquarters:
BONAR TECHNICAL FABRICS NV/SA
 Industriestraat 39
 B-9240 Zele
 BELGIUM
 T.: +32 (0) 52 457 487
 F.: + 32 (0) 52 457 495
 E-MAIL: geotextiles@bonartf.com

For UK and Ireland:
BONAR YARNS & FABRICS Ltd
 St. Salvador Street
 Dundee Scotland
 DD3 7EU
 T.: +44 (0)1382 346102
 F.: +44 (0)1382 229238
 E-MAIL: geotextiles@bonaryarns.com

website: www.bonartf.com

bontec
 woven and nonwoven geotextiles



SEPARATION



REINFORCEMENT



Other geotextiles available within the Bontec range include Highflow, High strength Wovens and Thermally Bonded & Needle-punched Nonwovens

Visit us at our website:
www.bonartf.com

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SG Woven Geotextiles PRODUCT PROFILE

“An exciting range of Standard Grade geotextiles that offer the perfect solution to your Separation requirements. With tensile strengths ranging from 10 to 300 kN/m you can be certain that an SG fabric will be available with the performance that you are looking for.”

DAILY SEPARATION, SOIL STRENGTHENING OR GROUND REINFORCEMENT?

Bontec SG woven geotextiles are manufactured from polypropylene tapes & yarns, and exhibit an excellent chemical resistance to commonly encountered acids and alkalis at ambient temperatures. Available in a lightweight range with products from 80 to 200g/m², and a heavyweight range from 200 to 800g/m².

Bontec SG facts include:

Tensile strengths up to 300 kN per metre (kN/m) width
 CBR Puncture Strengths ranging from 1.800 N to 12.500 N

SG Mechanical Properties that offer maximum strength at minimal cost and ensure the products survivability both against installation damage and in the longer term.

Lightweight woven geotextiles typically offer greater mechanical strengths per unit weight than comparable nonwoven grades. This makes lightweight woven geotextiles the ideal choice for separation

Waterflows normal to the plane that are generally several times more than that required by design

A range of consistent opening sizes suited for use in soils ranging from clay to coarse granular fill.

SG hydraulic properties that are suited to the demands of everyday separators.

Available ex-stock in 4.5m and 5.25m wide rolls or other widths to order

Typical applications for SG woven geotextiles include:

As a general purpose separator for use under site access roads and areas of hardstanding.

As a separation and strengthening layer under new roadways, car parks, industrial units etc.

As an erosion control layer under heavy rock armour in coastal defence projects.

For any separation application where there exists a need to prevent the intermixing of soft foundation soils with good clean granular fill.

SG Woven Geotextiles have been manufactured as a cost effective solution to your soil separation and stabilisation applications. They are manufactured from highly durable polypropylene polymer and have a long life expectancy when used in permanent structures.

For further product information, be it a technical data sheet or to discuss your project with one of our in-house geotextile experts please do not hesitate to contact one of our offices listed below.

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Bontec® SG 110/110

Heavy weight Polypropylene Woven Geotextiles

Technical data sheet

Product description

Polymer	Density	Melting Point	Construction
100% Polypropylene	0,91 kg/dm ³	165 °C	Tapes

Properties

Mechanical Properties	Standard	Performance	Tolerance
Tensile strength - MD	EN ISO 10319	110 kN/m	-9,9 kN/m
Tensile strength - CMD	EN ISO 10319	110 kN/m	-9,9 kN/m
Elongation at maximum load - MD	EN ISO 10319	10 %	+/-2,3 %
Elongation at maximum load - CMD	EN ISO 10319	8 %	+/-1,8 %
Static puncture resistance (CBR)	EN ISO 12236	12,5 kN	-2,5 kN
Dynamic perforation resistance (cone drop)	EN ISO 13433	10 mm	+2,0 mm
Tensile strength at 2% elongation - MD	EN ISO 10319	15 kN/m	
Tensile strength at 2% elongation - CMD	EN ISO 10319	25 kN/m	
Tensile strength at 5% elongation - MD	EN ISO 10319	45 kN/m	
Tensile strength at 5% elongation - CMD	EN ISO 10319	60 kN/m	
Hydraulic Properties	Standard	Performance	Tolerance
Water permeability normal to the plane (Vlh50)	EN ISO 11058	25 l/m ² s	-8 l/m ² s
Characteristic Opening Size (O90)	EN ISO 12956	230 µm	+/-69,0 µm
Physical Properties	Standard	Performance	Tolerance
Weight	EN ISO 9864	464 g/m ²	+/-46,4 g/m ²
Length (+/- 1%) x width (+/- 1%)		100 x 5,25 m	
Truck Load Volume (+/- 10%)		30450 m ³	
Roll diameter (+/- 10%)		45 cm	
Durability	Standard	Performance	
Predicted minimal durability in years in natural soils with 4 < pH < 9 and soil temperatures < 25°C	EN ISO 13438 - A2	25	
Maximum allowed time between installation and covering of the geosynthetic	EN 12224	2 weeks	

Version date: 1/11/2014

3

Version n°

The Quality Management System of Bonar has been approved to the ISO 9001 Quality Management System Standard. Certificates are available on request.



The information set forth in this data sheet reflects the best knowledge at the time of publication. The document is subject to change pursuant to new developments and findings. The same reservation applies to the properties of the products described. No liability is undertaken for results obtained by usage of the products and information.



Progress through performance
A Low & Bonar solution

Bonar NV.

Industriestraat 39, 9240 Zele, Belgium

T: +32 (0) 52 457 487 / F: +32 (0) 52 457 495

info@lowandbonar.com / www.lowandbonar.com



G AND E COMPANY LIMITED

14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com



Date	September 2016
Project	Contract No. NE/2015/02 Tseung Kwan O - Lam Tin Tunnel Road P2 and Associated Works
Client	Civil Engineering and Development Department
Consultant	AECOM Asia Company Limited
Main Contractor	CRBC-Build King Joint Venture Hong Kong River Engineering
Works	Silt Curtain
Material	Woven Geotextile Bontec SG110/110
Quantity	11,025 sqm



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361 - 363 Lockhart Road,
Wanchai, Hong Kong
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Date	Jan 2016
Project	Proposed revitalization of Avenue of Star and east TST Promenade Waterfront
Client	New World Development
Main Contractor	Kaden Construction Ltd
Works	Silt Protector
Material	Woven Geotextile Bontec SG110/110
Quantity	1,050 sqm



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Date	January 2015
Project	Contract No. SCL1121 Shatin to Central Link - NSL Cross Harbour Tunnel
Client	MTR Corporatin
Consultant	AECOM Asia Co. Ltd
Main Contractor	Penta Ocean - China State JV
Works	Silt Curtain
Material	Woven Geotextile Bontec SG110/110
Quantity	22,575 sqm



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14/F Kiu Yin Commercial Building
361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
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Date	May 2014
Project	HY/2012/07 Tuen Mun - Chek Lap Kok Link- Sothern Connection Viaduct Section
Client	Highway Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	Gammon Construction Ltd
Material	Woven geotextile Bontec SG110/110
Works	Silt Protector
Quantity	8,925 sqm



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361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
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Date	Nov 2014
Project	Contract No. HY/2010/08 Central-Wanchai Bypass - Tunnel (Slip Road 8 Section)
Client	Highway Department
Consultant	AECOM Asia Co Ltd
Main Contractor	China State Construction Engineering (HK) Ltd
Works	Silt Curtain
Material	Woven Geotextile Bontec SG110/110
Quantity	1,575 sqm



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Wanchai, Hong Kong
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Date	May 2013
Project	Contract No. HK/2012/08 Wan Chai Development Phase II - Central Wan Chai Bypass at Wan Chai West
Client	Civil Engineering and Development Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	China State Construction Engineering Co. Ltd Hong Kong River Engineering Co Ltd
Works	Silt Curtain
Material	Woven Geotextile SG110/110
Quantity	42,525 sqm



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361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
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Date	June 2013
Project	Contract No: HY/2011/03 HK-Zhuhai Macau Bridge Hong Kong Link Road - Scenic Hill and Hong Kong Boundary Crossing Facilities
Client	Highway Department
Consultant	Ove Arup & Partners HK Ltd
Main Contractor	China State Construction Engineering
Works	Tailor-made Silt Protector
Material	Woven Geotextile Bontec SG110/110



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Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
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Date	Jan 2014
Project	Contract No. CV/2013/02 Maintenance contract for seawalls and navigation channels
Client	CEDD
Consultant	CEDD
Main Contractor	China Harbour Engineering Co Ltd
Works	Silt Protector
Material	Woven Geotextile Bontec SG110/110



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Wanchai, Hong Kong
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Date	Feb 2014
Project	Contract No. DC/2011/04 Reconstruction, improvement and rehabilitation of Kai Tak River from Wong Tai Sin Police Station to Tung Tau II Estate
Client	Drainage Service Department
Consultant	Scott Wilson Limited
Main Contractor	Leader - Sunnic JV
Works	Silt Curtain to Kai Tak Nullah
Material	Woven Geotextile Bontec SG110/110
Quantity	525 sqm



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Date	Dec 2011
Project	Contract No. HY/2010/02 HK-Zhuhai-Macau Bridge - HK Boundary Crossing Facilities
Client	Highway Department
Consultant	Ove Arup & Partners HK Ltd
Main Contractor	China Harbour Engineering Co Ltd
Works	Silt Curtain Fabrication
Material	Woven Geotextile Bontec SG110/110



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361-363 Lockhart Road
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Date	November 2005
Project	Contract No. HY/2002/26 Stonecutters Bridge
Client	Highway Department
Consultant	Ove Arup and Partners HK Ltd
Main Contractor	Hong Kong River Engineering Co Ltd Maeda - Hitachi - Yokogawa - Hsing Chong Joint Venture
Material	Woven geotextile Bontec SG110/110
Works	Tailor-made Silt Curtain
Size	1,050 sqm



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Date	May 2011
Project	Contract No. DC/2009/22 Drainage Improvement Works in Shuen Wan, Tai Po
Client	Drainage Service Department
Consultant	AECOM (Asia) Ltd
Main Contractor	Kwan Lee - Kuly Joint Venture
Works	Separation
Material	Woven geotextile SG110/110
Quantity	2,625 sqm



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Date	June 2013
Project	Contract No. HY/2009/15 Central-Wanchai Bypass-Tunnel (Causeway Bay Typhoon Shelter Section)
Client	Highway Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	China State Construction Engineering (HK) Limited
Works	Tailor-made Silt Curtain
Material	Woven Geotextile Bontec SG110/110



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Date	March 2014
Project	Contract No. HK/2009/02 Wan Chai Development Phase II Central - Wan Chai Bypass Wan Chai East
Client	Civil Engineering and Development Department
Consultant	AECOM (Asia) Ltd
Main Contractor	Chun Wo Construction & Engineering Co.Ltd
Application	Silt Protector
Material	Woven Geotextile SG110/110
Quantity	6,825 sqm



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Date	March 2010
Project	Contract No. HK/2009/01 Wan Chai Development Phase II -Central - Wanchai Bypass at Hong Kong Convention and Exhibition Centre
Client	Civil Engineering and Development Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	Chun Wo - Leader Joint Venture
Works	Intake Silt Curtain
Materials	Woven Geotextile SG110/110
Size	34,125 sqm



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Date	March 2010
Project	KL/2009/01 Site formation for Kai Tak Cruise Terminal Development
Client	CEDD
Consultant	Scott Wilson Ltd
Main Contractor	Penta-Ocean Construction Co. Ltd
Materials	SG110/110
Size	1,050 sqm



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Date	May 2014
Project	HY/2012/07 Tuen Mun - Chek Lap Kok Link- Sothern Connection Viaduct Section
Client	Highway Department
Consultant	AECOM Asia Co. Ltd
Main Contractor	Gammon Construction Ltd
Works	Silt Curtain
Material	Woven geotextile Bontec SG110/110



Date	March 2010
Project	Contract No. DC/2007/01 Drainage Improvement Works in Ki Lun Tsuen, Kwu Tung, Ma Tso Lung and Sha Ling
Client	Drainage Services Department
Consultant	Mott MacDonald
Main Contractor	Shanghai Urban Construction (Group) Corporation
Works	Soil filter
Material	Woven Geotextile Bontec SG110/110 Woven Geotextile Bontec SG40/40
Quantity	SG110/110 - 7,875 sqm SG40/40 - 71,925 sqm



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14th Floor, Kiu Yin Commercial Building
361-363 Lockhart Road
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com



Date	April 2011
Project	Contract No. HY/2009/11 Central - Wanchai Bypass - North Point Reclamation
Client	Highways Department
Consultant	AECOM Asia Ltd
Main Contractor	China Harbour Engineering Company
Works	Tailor-made Silt Curtain
Materials	Woven Geotextile SG110/110
Quantity	22,066 sqm



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361 - 363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
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Date	May 2004
Project	Contract No. CV/2001/12 Reconstruction of Cheung Chau and Wu Kai Sha Public Piers
Client	Civil Engineering and Development Department
Engineer	Civil Engineering and Development Department
Main Contractor	Hong Kong and Macau Scent On Engineering & Construction Ltd
Works	Tailor-made Silt Curtain
Material	Woven Geotextile Bontec SG110/110



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14th Floor, Kiu Yin Commercial Building
361-363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
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Date	October 2006
Project	Lamma Island Cable Landing
Client	Hong Kong Electric Co Ltd
Consultant	Hong Kong Electric Co Ltd
Main Contractor	United Marine Co Ltd
Works	Tailor-made Silt Curtain
Material	Woven Geotextile SG110/110
Quantity	2,100 sqm



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14th Floor, Kiu Yin Commercial Building
361-363 Lockhart Road,
Wanchai, Hong Kong
Tel: 852-2570 0103 Fax: 852-2570 0089
website: www.g-and-e.com



Date	March 2006
Project	Contract No. HY/2005/06 Castle Peak Road Improvement West of Tsing Lung Tau
Client	Highway Department
Consultant	Mouchel Halcrow JV
Main Contractor	Chun Wo Construction & Engineering Co., Ltd.
Material	Woven Geotextile Bontec SG110/110
Works	Tailor-made Silt Curtain
Quantity	1,050 sqm



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361-363 Lockhart Road
Wanchai, Hong Kong
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Date	February 2005
Project	Contract No. CV/2003/06 Stanley Waterfront Improvement Project - Construction Pier &
Client	Civil Engineering and Development Department
Consultant	Civil Engineering and Development Department
Main Contractor	Sun Fook Kong (Civil) Ltd
Works	Silt Curtain - SG110/110
Quantity	2,080 sqm



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Wanchai, Hong Kong

Tel: 852-2570 0103 Fax: 852-2570 0089

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Date	May 2011
Project	Contract No. DC/2009/13 Construction of Sewage Treatment Works at Yung Shue Wan and Sok Kwu Wan
Client	Drainage Service Department
Consultant	Scott Wilson CDM Joint Venture
Main Contractor	Leader Civil Engineering Corp Ltd
Material	Bontec SG110/110 woven geotextile
Works	Silt Curtain
Quantity	1,575 sqm



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Date	Jan 2005
Project	Contract No. HK/12/02 Central Reclamation Phase III Engineering Works
Client	Civil Engineering and Development Department
Consultant	Atkins China Ltd
Main Contractor	Leighton - China State - Van Oord JV
Material	Woven Geotextile Bontec SG110/110
Works	Silt Curtain
Quantity	3,655 sqm



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Date	January 2010
Project	KL/2008/07 Kai Tak Development-Infrastructure works at Southern part of former runway, Stage 1
Client	CEDD
Consultant	AECOM
Main Contractor	Friendly Benefit Engineering Ltd
Works	Fabrication of Silt Curtain
Materials	SG110/110



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Date	March 2013
Project	Contract No. 1017EM10 Seawall Modification Work at Outfall Area at Kai Tak Development
Client	Civil Engineering and Development Department
Consultant	AECOM
Main Contractor	Crown Asia Engineering Ltd
Works	Silt Curtain
Material	Woven geotextile Bontec SG110/110
Quantity	1,050 sqm