

## TECHNICAL DATA SHEET

Product Name **enviroFIX<sup>®</sup> X 800**

Reference No: DS WAST 0498-08/2013 Rev 1

Date of Issue 06 November 2015

Description Envirofix is a geosynthetic clay liner



(European Conformity)

			M A R V (min average roll value)	Factory QC Test Frequency (m <sup>2</sup> )	
Geotextile Cover Layer	PP nonwoven, white	g/m <sup>2</sup>	200	4 000	ASTM D5261
Geotextile Carrier Layer	PP slit film, woven	g/m <sup>2</sup>	110	4 000	ASTM D5261
	PP nonwoven, white	g/m <sup>2</sup>	N/A		
	Composite	g/m <sup>2</sup>	N/A		
Bentonite Layer (bentonite mass at 0% moisture content)	Quality	Montmorillonite content > 75 %, Sodium Cation Na <sup>+</sup> > 60 %			
	Sodium Bentonite Powder	g/m <sup>2</sup>	3 700	4 000	ASTM D5993
	Swell Index (minimum)	ml/2 g	≥ 24	35 tonnes	ASTM D5890
GCL Mass per Unit Area		g/m <sup>2</sup>	4 010	4 000	ASTM D5993
Bonding Process		Needlepunched and Thermal Lock™			
Grab Strength	MD	N	600	4 000	ASTM D4632
	XD	N	600		
CBR Burst	Strength	N	1 400	20 000	ISO 12236
	Elongation	%	≥ 15		
Hydraulic Conductivity (maximum)		m/s	≤ 2.56 x 10 <sup>-11</sup>	25 000	ASTM D5887
Index Flux (pre-hydration thickness 4.5 mm)		m <sup>3</sup> /m <sup>2</sup> /s	6.0 x 10 <sup>-9</sup>	25 000	ASTM D5887
Peel Strength (excl Edge Treatment)		N/m	> 360	4 000	ASTM D6496
Edge Treatment		800 g/m <sup>2</sup> x 300 mm self-sealing bentonite edge enhancement			
Roll Size (standard)	width x length	m	5.35 x 40	1 % tolerance on width and length	
	diameter	cm	58	Nominal	
	Average roll mass	kg	1 040	Typical	

Manufactured by Kaytech to the ISO 9001:2000 Quality Management System Standard

PP = Polypropylene MD = Machine Direction XD = Cross Direction

Kaytech reserves the right to make technical modifications to its products

The information given in Kaytech's documentation is to the best of our knowledge true and correct. However, new research results and practical experience can make revisions necessary. No guarantee or liability can be drawn from the information mentioned herein. Furthermore, it is not Kaytech's intention to violate patents or licenses.

## TECHNICAL DATA SHEET

Product Name  **X 1000**

Reference No: DS WAST 0497-08/2013 Rev 1

Date of Issue 18 July 2014

Description Envirofix is a geosynthetic clay liner



(European Conformity)

				M A R V (min average roll value)	Factory QC Test Frequency (m <sup>2</sup> )	
Geotextile Cover Layer	PP nonwoven, white	g/m <sup>2</sup>	200	4 000	ASTM D5261	
Geotextile Carrier Layer	PP slit film, woven	g/m <sup>2</sup>	110	4 000	ASTM D5261	
	PP nonwoven, white	g/m <sup>2</sup>	N/A			
	Composite	g/m <sup>2</sup>	N/A			
Bentonite Layer (bentonite mass at 0% moisture content)	Quality	Montmorillonite content > 75 %, Sodium Cation Na <sup>+</sup> > 60 %				
	Sodium Bentonite Powder	g/m <sup>2</sup>	4 000	4 000	ASTM D5993	
	Swell Index (minimum)	ml/2 g	≥ 24	35 tonnes	ASTM D5890	
GCL Mass per Unit Area		g/m <sup>2</sup>	4 310	4 000	ASTM D5993	
Bonding Process		Needlepunched and Thermal Lock™				
Grab Strength	MD	N	600	4 000	ASTM D4632	
	XD	N	600			
CBR Burst	Strength	N	1 600	20 000	ISO 12236	
	Elongation	%	≥ 15			
Hydraulic Conductivity (maximum)		m/s	≤ 1.85 x 10 <sup>-11</sup>	25 000	ASTM D5887	
Index Flux (pre-hydration thickness 4.5 mm)		m <sup>3</sup> /m <sup>2</sup> /s	4.0 x 10 <sup>-9</sup>	25 000	ASTM D5887	
Peel Strength (excl Edge Treatment)		N/m	> 360	4 000	ASTM D6496	
Edge Treatment		800 g/m <sup>2</sup> x 300 mm self-sealing bentonite edge enhancement				
Roll Size (standard)	width x length	m	5.35 x 35	1 % tolerance on width and length		
	diameter	cm	60	Nominal		
	Average roll mass	kg	970	Typical		

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## TECHNICAL DATA SHEET

Product Name  **enviroFIX<sup>®</sup> X 2000**

Reference No: DS WAST 0496-08/2013 Rev1

Date of Issue 06 November 2015

Description Envirofix is a geosynthetic clay liner



(European Conformity)

			M A R V (min average roll value)	Factory QC Test Frequency (m <sup>2</sup> )	
Geotextile Cover Layer	PP nonwoven, white	g/m <sup>2</sup>	200	4 000	ASTM D5261
Geotextile Carrier Layer	PP slit film, woven	g/m <sup>2</sup>	110	4 000	ASTM D5261
	PP nonwoven, white	g/m <sup>2</sup>	200		
	Composite	g/m <sup>2</sup>	310		
Bentonite Layer (bentonite mass at 0% moisture content)	Quality	Montmorillonite content > 75 %, Sodium Cation Na <sup>+</sup> > 60 %			
	Sodium Bentonite Powder	g/m <sup>2</sup>	3 700	4 000	ASTM D5993
	Swell Index (minimum)	ml/2 g	≥ 24	35 tonnes	ASTM D5890
GCL Mass per Unit Area		g/m <sup>2</sup>	4 210	4 000	ASTM D5993
Bonding Process		Needlepunched and Thermal Lock™			
Grab Strength	MD	N	1 500	4 000	ASTM D4632
	XD	N	1 500		
CBR Burst	Strength	N	2 500	20 000	ISO 12236
	Elongation	%	≥ 50		
Hydraulic Conductivity (maximum)		m/s	≤ 1.92 x 10 <sup>-11</sup>	25 000	ASTM D5887
Index Flux (pre-hydration thickness 4.5 mm)		m <sup>3</sup> /m <sup>2</sup> /s	4.5 x 10 <sup>-9</sup>	25 000	ASTM D5887
Peel Strength (excl Edge Treatment)		N/m	> 600	4 000	ASTM D6496
Edge Treatment		800 g/m <sup>2</sup> x 300 mm self-sealing bentonite edge enhancement			
Roll Size (standard)	width x length	m	5.35 x 35	1 % tolerance on width and length	
	diameter	cm	60	Nominal	
	Average roll mass	kg	950	Typical	

Manufactured by Kaytech to the ISO 9001:2000 Quality Management System Standard

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## TECHNICAL DATA SHEET

Product Name **enviroFIX® X 3000**

Reference No: DS WAST 0499-08/2013 Rev 1

Date of Issue 18 July 2014

Description Envirofix is a geosynthetic clay liner



(European Conformity)

			M A R V (min average roll value)	Factory QC Test Frequency (m <sup>2</sup> )	
Geotextile Cover Layer	PP nonwoven, white	g/m <sup>2</sup>	200	4 000	ASTM D5261
Geotextile Carrier Layer	PP slit film, woven	g/m <sup>2</sup>	110	4 000	ASTM D5261
	PP nonwoven, white	g/m <sup>2</sup>	200		
	Composite	g/m <sup>2</sup>	310		
Bentonite Layer (bentonite mass at 0% moisture content)	Quality	Montmorillonite content > 75 %, Sodium Cation Na <sup>+</sup> > 60 %			
	Sodium Bentonite Powder	g/m <sup>2</sup>	4 250	4 000	ASTM D5993
	Swell Index (minimum)	ml/2 g	≥ 24	35 tonnes	ASTM D5890
GCL Mass per Unit Area		g/m <sup>2</sup>	4 760	4 000	ASTM D5993
Bonding Process		Needlepunched and Thermal Lock™			
Grab Strength	MD	N	1 500	4 000	ASTM D4632
	XD	N	1 500		
CBR Burst	Strength	N	3 000	20 000	ISO 12236
	Elongation	%	≥ 50		
Hydraulic Conductivity (maximum)		m/s	≤ 1.49 x 10 <sup>-11</sup>	25 000	ASTM D5887
Index Flux (pre-hydration thickness 4.5 mm)		m <sup>3</sup> /m <sup>2</sup> /s	3.0 x 10 <sup>-9</sup>	25 000	ASTM D5887
Peel Strength (excl Edge Treatment)		N/m	> 600	4 000	ASTM D6496
Edge Treatment		800 g/m <sup>2</sup> x 300 mm self-sealing bentonite edge enhancement			
Roll Size (standard)	width x length	m	5.35 x 30	1 % tolerance on width and length	
	diameter	cm	58	Nominal	
	Average roll mass	kg	920	Typical	

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