HUITEX®

TECHNOLOGY

GEOMEMBRANES

HUITEX , the environmental technology business group of Huikwang Corporation (HKC), is a global manufacturer and supplier of geosynthetic lining products and services. HUITEX supplies full ranges of geosynthetic products with specialized specifications to meet critical project requirements.

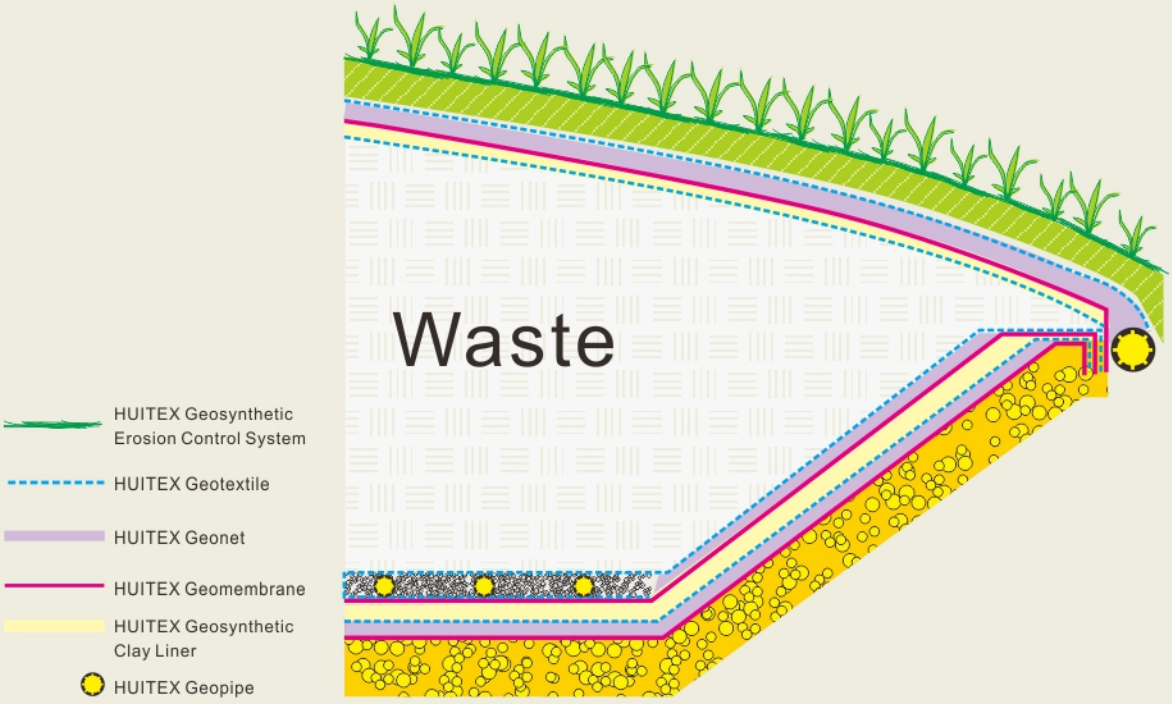
With multinational manufacturing, warehousing and logistic operations along with our solid global distribution network, HUITEX geosynthetic products serve the needs of worldwide environmental protection and geotechnical applications efficiently and economically.

As an active player in the international geosynthetic community, HKC is a corporate member of International Geosynthetic Society, Industrial Fabrics Association International, Geosynthetic Material Association, and International Association of Geosynthetics Installers.

Applications

- Landfills
- Landfill Caps
- Hazardous Waste Containments
- Waste Water Treatment
- Secondary Containments
- Aquaculture Ponds
- Canals
- Potable Water Containments
- Water Reservoirs
- Mining
- Tunnel
- Storage Tanks
- Concrete Protection

HUITEX Geomembrane for landfill lining solution



Featuring superior impermeability, tensile strength and strong resistance to puncture, environmental stress crack and UV radiation, HUITEX Geomembrane provides a long-term solution to the landfill containment. HUITEX Geomembrane is available in smooth and textured finishes to utilize the friction advantage for slope lining. In addition to standard black, colored geomembrane is also available for easy damage detection and UV reflection.

HUITEX Geomembrane for aquaculture pond, canal and water containment

Water conservation is one of the most important issues in the 21st century. Polyethylene's safe, nontoxic properties make HUITEX Geomembrane an ideal lining material for aquaculture pond, canal and water containment applications. Blended with premium polyethylene resin, adequate carbon black and antioxidant, HUITEX Geomembrane is resistant to the UV radiation under an exposed environment in the long term.

HUITEX Geomembrane for hazardous waste treatment

Hazardous waste management has always been critical in the industries. HUITEX Geomembrane is widely used for the hazardous material containment, waste water treatment, and mining leach pads. Featuring strong chemical resistance, impermeability and flexibility, HUITEX Geomembrane generates a durable and reliable environmental protection solution.

HUITEX Geomembrane for Mining Applications

Mining applications require the most reliable barriers for the containment lining systems. HUITEX Geomembrane is prevailingly used in the highest quality, most durable and long lasting lining systems for specialized mining needs.

HUITEX Geomembrane is available in smooth and textured finishes to utilize the friction advantage for slope lining. HUITEX Geomembrane with the best chemical resistance has been used successfully for many years as liners for mining leach pads.

HUITEX HDPE Smooth Geomembrane

HUITEX HDPE Smooth Geomembrane is made of premium HDPE (High Density Polyethylene) with smooth finishes. It has superior features including outstanding dimensional stability, excellent impermeability, and strong resistance against aggressive chemicals, ultraviolet and environmental stress crack. HUITEX HDPE Smooth Geomembrane is the most common material for geolining solution.

Product Specifications

		Standard Values						
Property	Test Method	HD050	HD075	HD100	HD150	HD200	HD250	HD300
Thickness, mm	ASTM D5199							
Minimum Average Values		0.50	0.75	1.00	1.50	2.00	2.50	3.00
Lowest Individual Reading		0.45	0.67	0.90	1.35	1.80	2.30	2.70
Density, g/cm^3	ASTM D1505/D792	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Tensile Properties(each direction)	ASTM D6693 Type IV specimen							
1.Strength at Yield, kN/m width	@ 50 mm/min	9	11	16	25	34	40	46
2.Strength at Break, kN/m width		14	22	30	46	61	76	85
3.Elongation at Yield, %		13	13	13	13	13	13	13
4.Elongation at Break, %		700	700	700	700	700	700	700
Tear Resisance, N	ASTM D1004	73	100	138	210	275	330	374
Puncture Resistance, N	ASTM D4833	200	300	400	550	730	900	1100
SP-NCTL Stress Crack Resistance, hrs	ASTM D5397 (Appendix)	400	400	400	400	400	400	400
Carbon Black Content, %	ASTM D1603	2-3	2-3	2-3	2-3	2-3	2-3	2-3
Carbon Black Dispersion	ASTM D5596	note(2)	note(2)	note(2)	note(2)	note(2)	note(2)	note(2)
Dimensional Stability, %	ASTM D1204 (100°C ; 1 hour)	±2	±2	±2	±2	±2	±2	±2
Low Temperature Brittleness, C	ASTM D746	<-77	<-77	<-77	<-77	<-77	<-77	<-77
Oxidative Induction Time, min	ASTM D3895 (200 C ; O_2, 1atm)	>120	>120	>120	>120	>120	>120	>120
Roll Width, m		7	7/8	7/8	7/8	7/8	7	7
Roll Length, m		420	280	210	140	105	84	70

NOTES:

(1).Machine direction (MD) and cross machine direction (XMD) average values should be on basis of 5 test specimens each direction.

Yield elongation is calculated using a gauge length of 33 mm.

Break elongation is calculated using a gauge length of 50 mm.

(2).Carbon black dispersion for 10 different views: all 10 in Categories 1 or 2.

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HUITEX HDPE Single-Sided Textured Geomembrane

HUITEX HDPE Single-Sided Textured geomembrane is made of premium virgin HDPE with Single-sided textured finishes. HUITEX HDPE Single-Sided Textured Geomembrane has not only the superior features as HUITEX HDPE Smooth Geomembrane does but also provides excellent friction. It is ideally suitable for the slope lining solution.

Product Specifications

		Standard Values				
Property	Test Method	HS075	HS100	HS150	HS200	HS250
Thickness, mm	ASTM D5994					
Minimum Average Values		0.75	1.00	1.50	2.00	2.50
Lowest Individual Reading		0.64	0.85	1.28	1.70	2.13
Asperity Height[2]	ASTM D7466	0.25	0.25	0.25	0.25	0.25
Density, g/cm^3	ASTM D1505/D792	0.94	0.94	0.94	0.94	0.94
Tensile Properties(each direction)	ASTM D6693 Type IV specimen					
1.Strength at Yield, kN/m width	@ 50 mm/min	11	15	23	30	38
2.Strength at Break, kN/m width		8	13	16	21	27
3.Elongation at Yield, %		13	13	13	13	13
4.Elongation at Break, %		150	150	150	150	150
Tear Resisance, N	ASTM D1004	98	135	200	250	312
Puncture Resistance, N	ASTM D4833	240	270	410	534	667
SP-NCTL Stress Crack Resistance, hrs	ASTM D5397 (Appendix)	400	400	400	400	400
Carbon Black Content, %	ASTM D1603	2-3	2-3	2-3	2-3	2-3
Carbon Black Dispersion	ASTM D5596	note(4)	note(4)	note(4)	note(4)	note(4)
Dimensional Stability, %	ASTM D1204 (100°C；1 hour)	±2	±2	±2	±2	±2
Low Temperature Brittleness, C	ASTM D746	<-77	<-77	<-77	<-77	<-77
Oxidative Induction Time, min	ASTM D3895 (200°C；O_2, 1atm)	>100	>100	>100	>100	>100
Roll Width, m		7/8	7/8	7/8	7/8	7/8
Roll Length, m		225	170	128	98	76

NOTES:

(1).Lowest thickness for 8 out of 10 values is 10% of the nominal value; lowest thickness for any of the 10 values is 15% of the nominal value.

(2).Of 10 readings：8 out of 10 must be ≧0.18mm, and lowest individual reading must be ≧0.13mm.

(3).NCTL for HDPE Textured is conducted on representative smooth membrane samples.

(4).Carbon black dispersion for 10 different views: all 10 in Categories 1 or 2.

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HUITEX HDPE Double-Sided Textured Geomembrane

HUITEX HDPE Double-Sided Textured geomembrane is made of premium virgin HDPE with Double-sided textured finishes. HUITEX HDPE Double-Sided Textured Geomembrane has not only the superior features as HUITEX HDPE Smooth Geomembrane does but also provides excellent friction. It is ideally suitable for the slope lining solution.

Product Specifications

		Standard Values				
Property	Test Method	HX075	HX100	HX150	HX200	HX250
Thickness, mm	ASTM D5994					
Minimum Average Values		0.75	1.00	1.50	2.00	2.50
Lowest Individual Reading		0.64	0.85	1.28	1.70	2.13
Asperity Height[2]	ASTM D7466	0.25	0.25	0.25	0.25	0.25
Density, g/cm^3	ASTM D1505/D792	0.94	0.94	0.94	0.94	0.94
Tensile Properties(each direction)	ASTM D6693 Type IV specimen					
1.Strength at Yield, kN/m width	@ 50 mm/min	11	15	23	30	38
2.Strength at Break, kN/m width		8	13	16	21	27
3.Elongation at Yield, %		13	13	13	13	13
4.Elongation at Break, %		150	150	150	150	150
Tear Resisance, N	ASTM D1004	98	135	200	250	312
Puncture Resistance, N	ASTM D4833	240	270	410	534	667
SP-NCTL Stress Crack Resistance, hrs	ASTM D5397 （Appendix）	400	400	400	400	400
Carbon Black Content, %	ASTM D1603	2-3	2-3	2-3	2-3	2-3
Carbon Black Dispersion	ASTM D5596	note(4)	note(4)	note(4)	note(4)	note(4)
Dimensional Stability, %	ASTM D1204 (100°C；1 hour)	±2	±2	±2	±2	±2
Low Temperature Brittleness, C	ASTM D746	<-77	<-77	<-77	<-77	<-77
Oxidative Induction Time, min	ASTM D3895 (200 C；O_2, 1atm)	>100	>100	>100	>100	>100
Roll Width, m		7/8	7/8	7/8	7/8	7/8
Roll Length, m		225	170	128	98	76

NOTES:

(1).Lowest thickness for 8 out of 10 values is 10% of the nominal value; lowest thickness for any of the 10 values is 15% of the nominal value.

(2).Of 10 readings：8 out of 10 must be ≧0.18mm, and lowest individual reading must be ≧0.13mm.

(3).NCTL for HDPE Textured is conducted on representative smooth membrane samples.

(4).Carbon black dispersion for 10 different views: all 10 in Categories 1 or 2.

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HUITEX LLDPE Smooth Geomembrane

HUITEX LLDPE Smooth Geomembrane is made of premium LLDPE, (Linear Low Density Polyethylene) with smooth finishes. HUITEX LLDPE Smooth Geomembrane has not only the superior features as HUITEX HDPE Smooth Geomembrane does but also provides excellent flexibility and elongation. It is ideally suitable for the lining projects requiring special flexibility.

Product Specifications

		Standard Values					
Property	Test Method	VF050	VF075	VF100	VF150	VF200	VF250
Thickness, mm	ASTM D5199						
Minimum Average Values		0.50	0.75	1.00	1.50	2.00	2.50
Lowest Individual Reading		0.45	0.68	0.90	1.35	1.80	2.25
Density, g/cm^3 (max)	ASTM D1505/D792	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
Tensile Properties(each direction)	ASTM D6693 Type IV specimen @ 50 mm/min						
1.Strength at Break, kN/m width		14	20	27	40	55	66
2.Elongation at Break, %		800	800	800	800	800	800
Tear Resisance, N	ASTM D1004	50	70	100	150	200	250
Puncture Resistance, N	ASTM D4833	120	190	250	370	500	620
SP-NCTL Stress Crack Resistance, hrs	ASTM D5397 (Appendix)	400	400	400	400	400	400
Carbon Black Content, %	ASTM D1603	2-3	2-3	2-3	2-3	2-3	2-3
Carbon Black Dispersion	ASTM D5596	note(2)	note(2)	note(2)	note(2)	note(2)	note(2)
Dimensional Stability, %	ASTM D1204 (100°C；1 hour)	±2	±2	±2	±2	±2	±2
Low Temperature Brittleness, C	ASTM D746	<-77	<-77	<-77	<-77	<-77	<-77
Oxidative Induction Time, min	ASTM D3895 (200 C；O_2, 1atm)	>100	>100	>100	>100	>100	>100
2% Modulus, kN/m	ASTM D5323	210	370	420	630	840	1050
Axi-Symmetric Break Strain, %	ASTM D5617	56	56	56	56	56	56
Roll Width, m		7	7	7	7	7	7
Roll Length, m		420	280	210	140	105	84

NOTES:

(1).Machine direction (MD) and cross machine direction (XMD) average values should be on basis of 5 test specimens each direction. Break elongation is calculated using a gauge length of 50 mm.

(2).Carbon black dispersion for 10 different views: all 10 in Categories 1 or 2.

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HUITEX LLDPE Single-Sided Textured Geomembrane

HUITEX LLDPE Single-Sided Textured Geomembrane is made of premium LLDPE, (Linear Low Density Polyethylene) with single-sided textured finishes. HUITEX LLDPE Single-Sided Textured Geomembrane has the friction advantages as HUITEX HDPE Textured Geomembrane does and the flexibility advantages as HUITEX LLDPE Smooth Geomembrane does. It is ideally suitable for the lining projects requiring both friction and flexibility. HUITEX LLDPE Single-Sided Textured has unique smooth edges enhancingwelding efficiency and seaming quality.

Product Specifications

		Standard Values				
Property	Test Method	VS075	VS100	VS150	VS200	VS250
Thickness, mm	ASTM D5199					
Minimum Average Values		0.75	1.00	1.50	2.00	2.50
Lowest Individual Reading		0.64	0.85	1.28	1.70	2.13
Asperity Height	ADTM D7466	0.25	0.25	0.25	0.25	0.25
Density, g/cm^3 (max)	ASTM D1505/D792	0.94	0.94	0.94	0.94	0.94
Tensile Properties(each direction)	ASTM D6693 Type IV specimen @ 50 mm/min					
1.Strength at Break, kN/m width		9	11	16	21	26
2.Elongation at Break, %		250	250	250	250	250
Tear Resisance, N	ASTM D1004	70	100	150	200	250
Puncture Resistance, N	ASTM D4833	150	200	300	400	500
Carbon Black Content, %	ASTM D1603	2-3	2-3	2-3	2-3	2-3
Carbon Black Dispersion	ASTM D5596	note(3)	note(3)	note(3)	note(3)	note(3)
Dimensional Stability, %	ASTM D1204 (100°C ; 1 hour)	±2	±2	±2	±2	±2
Low Temperature Brittleness, C	ASTM D746	<-77	<-77	<-77	<-77	<-77
Oxidative Induction Time, min	ASTM D3895 (200 C ; O_2, 1atm)	>100	>100	>100	>100	>100
2% Modulus, kN/m	ASTM D5323	370	420	630	840	1050
Axi-Symmetric Break Strain, %	ASTM D5617	56	56	56	56	56
Roll Width, m		7	7	7	7	7
Roll Length, m		225	170	128	98	76

NOTES:

(1).Lowest thickness for 8 out of 10 values is －10% of the nominal value; lowest thickness for any of the 10 values is －15% of the nominal value.

(2).Of 10 readings ; 8 out of 10 must be ≧0.18mm, and lowest individual reading must be ≧0.13mm.

(3).Carbon black dispersion for 10 different views: all 10 in Categories 1 or 2.

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Product Specifications

		Standard Values				
Property	Test Method	VX075	VX100	VX150	VX200	VX250
Thickness, mm	ASTM D5199					
Minimum Average Values		0.75	1.00	1.50	2.00	2.50
Lowest Individual Reading		0.64	0.85	1.28	1.70	2.13
Asperity Height	ADTM D7466	0.25	0.25	0.25	0.25	0.25
Density, g/cm^3 (max)	ASTM D1505/D792	0.94	0.94	0.94	0.94	0.94
Tensile Properties(each direction)	ASTM D6693 Type IV specimen @ 50 mm/min					
1.Strength at Break, kN/m width		9	11	16	21	26
2.Elongation at Break, %		250	250	250	250	250
Tear Resisance, N	ASTM D1004	70	100	150	200	250
Puncture Resistance, N	ASTM D4833	150	200	300	400	500
Carbon Black Content, %	ASTM D1603	2-3	2-3	2-3	2-3	2-3
Carbon Black Dispersion	ASTM D5596	note(3)	note(3)	note(3)	note(3)	note(3)
Dimensional Stability, %	ASTM D1204 (100°C ; 1 hour)	±2	±2	±2	±2	±2
Low Temperature Brittleness, C	ASTM D746	<-77	<-77	<-77	<-77	<-77
Oxidative Induction Time, min	ASTM D3895 (200 C ; O_2, 1atm)	>100	>100	>100	>100	>100
2% Modulus, kN/m	ASTM D5323	370	420	630	840	1050
Axi-Symmetric Break Strain, %	ASTM D5617	56	56	56	56	56
Roll Width, m		7	7	7	7	7
Roll Length, m		225	170	128	98	76

NOTES:

(1).Lowest thickness for 8 out of 10 values is - 10% of the nominal value; lowest thickness for any of the 10 values is - 15% of the nominal value.

(2).Of 10 readings : 8 out of 10 must be ≧0.18mm, and lowest individual reading must be ≧0.13mm.

(3).Carbon black dispersion for 10 different views: all 10 in Categories 1 or 2.

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Accessories

HUITEX Welding Rod

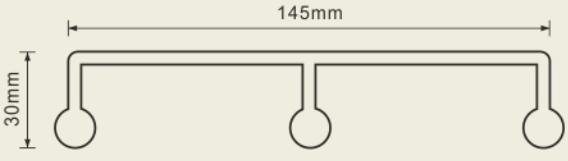
Made of the same polyethylene material as HUITEX Geomembrane, HUITEX Welding Rods are available in 4mm and 5mm diameters for extrusion welding.

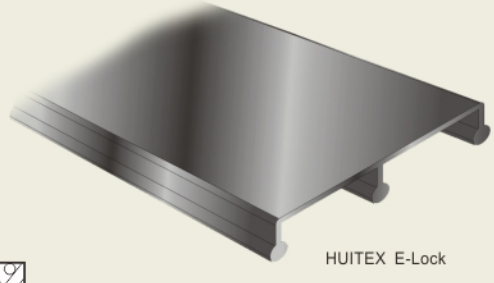
HUITEX Welding Rod with spool

Model	WR-040	WR-050
Diameter (mm)	4.0	5.0
Weight / Reel(kg)	5.0	5.0

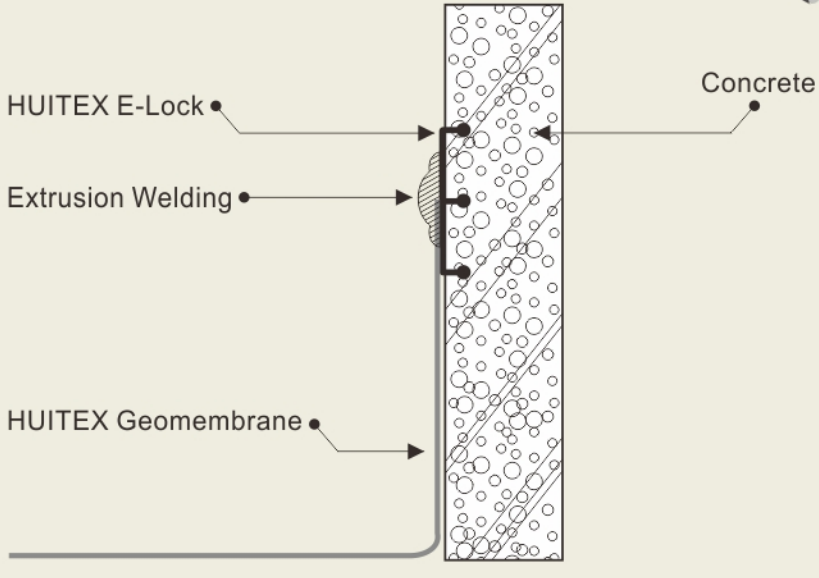
HUITEX E-Lock

Made of the same polyethylene material as HUITEX Geomembrane, HUITEX E-Lock is an embedded attachment system to HUITEX Geomembrane. E-Lock is designed to embed the geomembrane to the concrete and generate a solid junction between the geomembrane and concrete construction.





HUITEX E-Lock



Huitex Quality Manifesto

As a publicly listed corporation with 45-year history, HKC is dedicated in supplying superior geomembrane products to generate an effective geolining solution with sound and long-term performance guarantee.

HUITEX Geomembrane is manufactured by our innovative three-layer co-extrusion facilities with consistent QA/QC programs throughout the production process.The material is made of premium polyethylene resin designed specifically for geomembrane production along with high-performance additives.

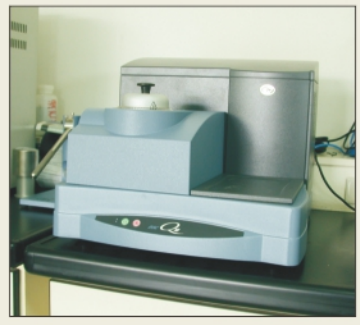
HKC' s management system is certified to ISO 9001 and 14001. Strict tests are conducted in accordance with ASTM or compatible international standards.
HUITEX TQM programs conform to or exceed the GRI GM13 and GM17 standards. HUITEX products are certified the Factory Production Control for CE marking. HUITEX FPC/MQC/MQA manual and the product documents accompanying with the CE marking are available upon request.

ISO 9001 Certificate

CE Marking HX Series

ISO 14001 Certificate

CE Marking HD Series



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