

## **I Company Profile**

Dalian Geo-Link Geosynthetics Co. Ltd is a globally focused company specializing in a complete range of geosynthetic products for the worldwide Civil, Transportation, Hydraulic and Environmental markets. Dalian Geo-Link Geosynthetics Co. Ltd is located in Dalian City, China.

The company was established in 2012.

Dalian is a progressive Chinese City located on the coast of North Eastern China. Dalian is a centre of education, manufacture, research and government. Dalian is strategically located close to a large international shipping port allowing world markets to be serviced efficiently and economically.

The company has purchased and installed modern manufacturing equipment for the production of their own geosynthetic products and is committed to continuing to invest in modern equipment and personnel.

The company adopted the Chinese National Geotextile Standards in the initial period of formation and then quickly and successfully adopted geotextile production equipment and methods to successfully manufacture product for all international standards. Our company has a commitment for excellence in product and passed the well recognized Chinese National Accreditation Service (CNAS) for laboratory accreditation in 2016. This was achieved after establishing a highly sophisticated in-house testing facility and completing staff quality training, such that every quality step could be quantified during production of the company products. Our laboratory allows our customers to have faith in the independent nature and accreditation standard of our laboratory and staff.

To ensure that our company maintains focus towards product manufacturing excellence, product quality to meet our customer demands and overall management processes of the highest standards, the company is an ISO 9001 accredited organization.

## II Quality Policy

Our Quality policy reflects the company's commitment to consistently achieving product quality; we aim to meet this commitment by making continuous improvements in all aspects of our business when required.

The company's quality policy:

- The company adheres to innovation and development-----In order to to serve the needs of our customers and make the direction of future development clear, we have always been committed to the development of new products by maintaining innovation and improvement.
- Continuously improve the quality of all production processes-----For each order, we create quality plans for our customers and focus on the quality control of each production cycle to improve product quality.
- Total involvement-----Each employee has clearly defined roles and responsibilities. We have regular training to make our employees understand their responsibilities and authority clearly, so that they can be competent to ensure their implementation of each activity.
- Advance with times and forge ahead-----All production processes are completely in accordance with the ISO9001 standard, so that we can meet customer requirements.
- A high level of service to meet customer satisfaction-----we are committed to provide high quality products and services for our customers to meet their needs.

In order to achieve the quality policy, we set up the quality target and monitor the achievement of the quality objectives by using effective management.

We will continue to provide products which can satisfy our customers---this is our constant goal and focus.



### **OUR COMMITMENT IS ALWAYS**

Customer satisfaction

Highest Quality product

Transparency in all our dealings

Mutual reward between our company and our clients.

### III Production Capacity

Each of our manufacturing facilities has the most advanced production and laboratory facilities to ensure the highest quality for each product produced. We monitor and if necessary, adjust the production process parameters continuously, according to the product test results from the in-house laboratory during the production progress.

Each year, we can produce about 20,000,000m<sup>2</sup> of nonwoven geotextiles. Our production and technical staff, have the authority to independently change manufacturing processes and ensure that the production and specification targets are met.

In conclusion, we have a mature, independent management system with skilled staff, excellent manufacturing equipment and a well equipped testing laboratory staffed by excellent technicians.

Our manufacturing facilities have been certificated by ISO9001, ISO14001, and OHSAS18000 and can meet the needs of our customers.





## IV Awards

Geo-Link is a professional enterprise specialized in the production of geotextile. With the continuous development of the company and the joint efforts of all staff, we have obtained the following qualifications.



- ◆ ISO9001-2008 Quality Management System Certification. (ISO9000)  
(Dalian Geo-Link Geosynthetics Co. Ltd. passed the audit qualification certification in 2014)  
(Dalian GeoMax synthetic Co. Ltd. passed the audit certification qualification in 2014)



- ◆ Membership of the Chinese Association of geosynthetic materials engineering (TAG)  
(Dalian Geo-Link Geosynthetics Co. Ltd. obtained the qualification in 2013 )



- ◆ ISO14001-2004 Environment Management System Certification. (ISO140001)  
(Dalian Geo-Link Geosynthetics Co. Ltd. passed the audit qualification certification in 2016)  
(Dalian GeoMax synthetic Co. Ltd. passed the audit certification qualification in 2015)  
(Dalian I.E.C Testing and Service Co., Ltd. passed the audit certification qualification in 2016)

- ◆ OHSAS-2007 Occupational Health and Safety Management System Certification. (OHSAS18001)  
(Dalian Geo-Link Geosynthetics Co. Ltd. passed the audit qualification certification in 2016)  
(Dalian GeoMax synthetic Co. Ltd. passed the audit certification qualification in 2015)  
(Dalian I.E.C Testing and Service Co., Ltd. passed the audit certification in 2016).



- ◆ Membership of the International geosynthetic society materials engineering (IGS)  
(Dalian Geo-Link Geosynthetics Co. Ltd. obtained the qualification in 2013.



- ◆ China National Accreditation Service for Conformity Assessment - Laboratory Accreditation. (CNAS)  
(Dalian I.E.C Testing and Service Co., Ltd. obtained the qualification in 2016).



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## V Quality Management

### Commitment

Geo-Link has a commitment in providing our customers with high quality products and services such that we can meet and exceed the requirements and expectations of customers.

Our company commitment to quality starts from closely evaluating all raw materials used in our products. This has been successfully achieved with the establishment of a vendor evaluation program to ensure that their commitment to quality meets those of our company. Our suppliers must meet the minimum quality requirements for all components of supply to us. This is achieved through strict written material specification requirements and test reports that demonstrate the compliance to minimum specification requirements. Audit procedures are in place that allows our company representatives to ensure that the materials supplied to our company are identified correctly, that testing has been carried out to both the relevant methods and test frequency.

Final product testing is carried out in our in-house laboratory. This laboratory has been certified by the CNAS organization. CNAS is the laboratory accreditation authority in China with direct links through mutual accreditation programmes, with major like accreditation authorities, throughout the world. Our laboratory can test a wide range of geosynthetic products in modern well equipped premises. Our facilities allow us to test in a climate controlled environment with the ability to test across a very diverse range of test methods and test standards. Minimum test frequencies are maintained such that each shipment can be certified as conforming to the required product or specific customer specification.

Test reports are issued with full product testing details and knowledge that the results have been generated in a laboratory that has been fully inspected and formally accredited for testing equipment and calibration, operator technique and record keeping and traceability of all testing undertaken.

We regularly analyze the product testing data and where necessary will make product changes such that we can continue to improve the product quality of each roll and comply with the quality management system.

We collect and analyze the test data and will update our published data to reflect the latest product properties. Our data sheets will include test results to various international standards such as ASTM (American Society for Testing Materials); AS (Australian Standards) and GB (People's Republic of China National Standards).

Our customers can get the latest product information from the website of our company in a timely manner.





## VI ISO Quality Certification



### The Authentication Certificate of Quality Management System

#### DALIAN GEO-LINK GEOSYNTHETICS CO., LTD

Registered Address: No4,Room418,Yingchun street,Shahekou District,Dalian,Liaoning,China  
Production/Business/Office Address: No.8888-1,East Nanshan Industrial Park,Youjia,Ganjingzi  
District,Dalian,Liaoning,China

Is in conformity with  
**GB/T19001-2016/ISO9001:2015** standard requirements

The certificate is valid for the following scope:

**Geosynthetics series Export business**

Registration No. of Certificate: 05318Q31521R0S  
Date of the Awarded Certificate: 21-06-2018  
Term of the Certificate's Validity: 21-06-2018~20-06-2021  
Date of the First Authentication: 21-06-2018  
Enterprise Organization Code: 79203057-3

This certificate in the provisions of the state's administrative license, qualification within the scope of used together shall be valid  
The certificate information can be in the Certification and Accreditation Administration of the  
People's Republic of China web site inquiries ([www.cca.gov.cn](http://www.cca.gov.cn))  
If not stick the laser surveillance mark after the date of surveillance expires, this certificate is invalid  
This Certificate is issued in both Chinese and English. In the event of any discrepancy between the two versions, the Chinese version shall prevail

The first surveillance                  Mark stick here



中国认可  
国际互认  
管理体系  
MANAGEMENT SYSTEM  
CNAS C053-M

General Manager: *Zhaotang*

Registered Address of Certification Authority: 701, No. 7 Jianguomennei Street, Dongcheng District, Beijing.  
Mailing Address of Certification Authority: Rm. 701, Block 1, Guanghua Chang'an Building, No. 7 Jianguomennei Street,  
Dongcheng District, Beijing. Tel: 010-50981300 P.C.: 100005 Http://www.ngv.org.cn

## VII ISO Certification

ISO 9001 Certification has been implemented by our company such that its implementation has been adopted in a practical way. This has ensured that the Quality Management Systems that are adopted by all levels of company staff and the system works to improve the business and are not just a set of procedures.

By adopting an approach that starts out to implement more efficient working practices and focuses on the business objectives of our company then a system is achieved that will help and support company staff and improve our levels of customer satisfaction.

External auditing is carried out on a regular basis with all levels of employees embracing the concept of ISO 9001.

ISO 9001 Certification has been found to save time and cost, improve efficiency and ultimately improve customer relationships.

### **Some of the benefits to our company include:**

- ◆ Providing senior management with an efficient management process
- ◆ Sets out areas of responsibility across the organization
- ◆ Mandatory if you want to tender for some public sector work
- ◆ Communicates a positive message to staff and customers
- ◆ Identifies and encourages more efficient and time saving processes
- ◆ Highlights deficiencies
- ◆ Reduces costs
- ◆ Provides continuous assessment and improvement
- ◆ Marketing opportunities

### **Some of the benefits to customers:**

- ◆ Improved quality and service
- ◆ Delivery on time
- ◆ Right first time attitude
- ◆ Fewer returned products and complaints

Independent audit demonstrates commitment to quality



## VIII Quality Control

In the whole production process, on the one hand, we take a series of rigorous, accurate and effective control measures to ensure the highest level of product quality and service effectively, on the other hand, we use leadership responsibility system to ensure product quality. We release the products only if they meet the enterprise standard, the national standard and customer requirements. Our staff is trained before working and we have regular training and examination system to ensure that everyone has the ability to meet product requirements. Our quality assurance inspectors are responsible for the daily monitoring of the product, they are in charge of testing results and timely feedback to the production department, the production department personnel will analyze the test results timely and effectively to ensure product quality.

In the production process, for each order / contract we will develop product quality plan to control the key control point of product effectively, and join the second party and tripartite spot quality witness in accordance with customer requirements.

As a basis for the process to update technology operating instructions and the enterprise standard / metrics table, our product testing results will be promptly entered into the database which is closely related to production information, so that we can increase the level of technology and product quality.

Our laboratory is certified by CNAS and is checked regularly. It has the ability to provide a fair, impartial, objective and legitimate testing report, which is an important way of the quality control process. The laboratory testing equipment mainly including:

Raw material testing equipment:

1. Ventilation type quick eight basket oven
2. Crimp elastic apparatus
3. Quick grease extractor
4. Electronic mono filament tensile machine
5. Fiber specific resistance meter

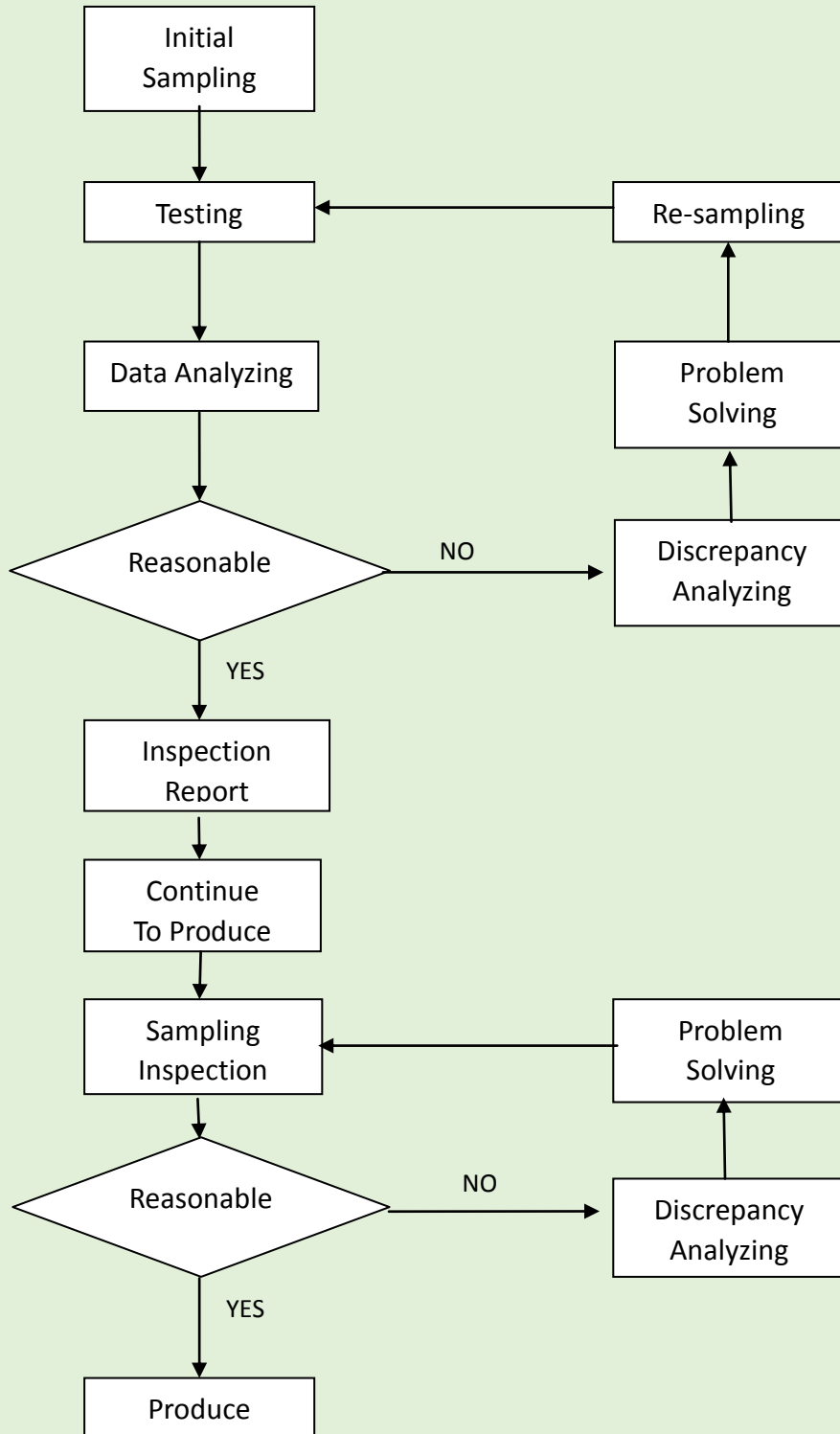
Process testing equipment:

1. Universal material testing machine
2. Electronic pressure testing machine
3. Electronic balance;
4. Thickness gauge
5. Drop cone apparatus
6. Sieve shaker
7. Electronic scale
8. Water permeability apparatus



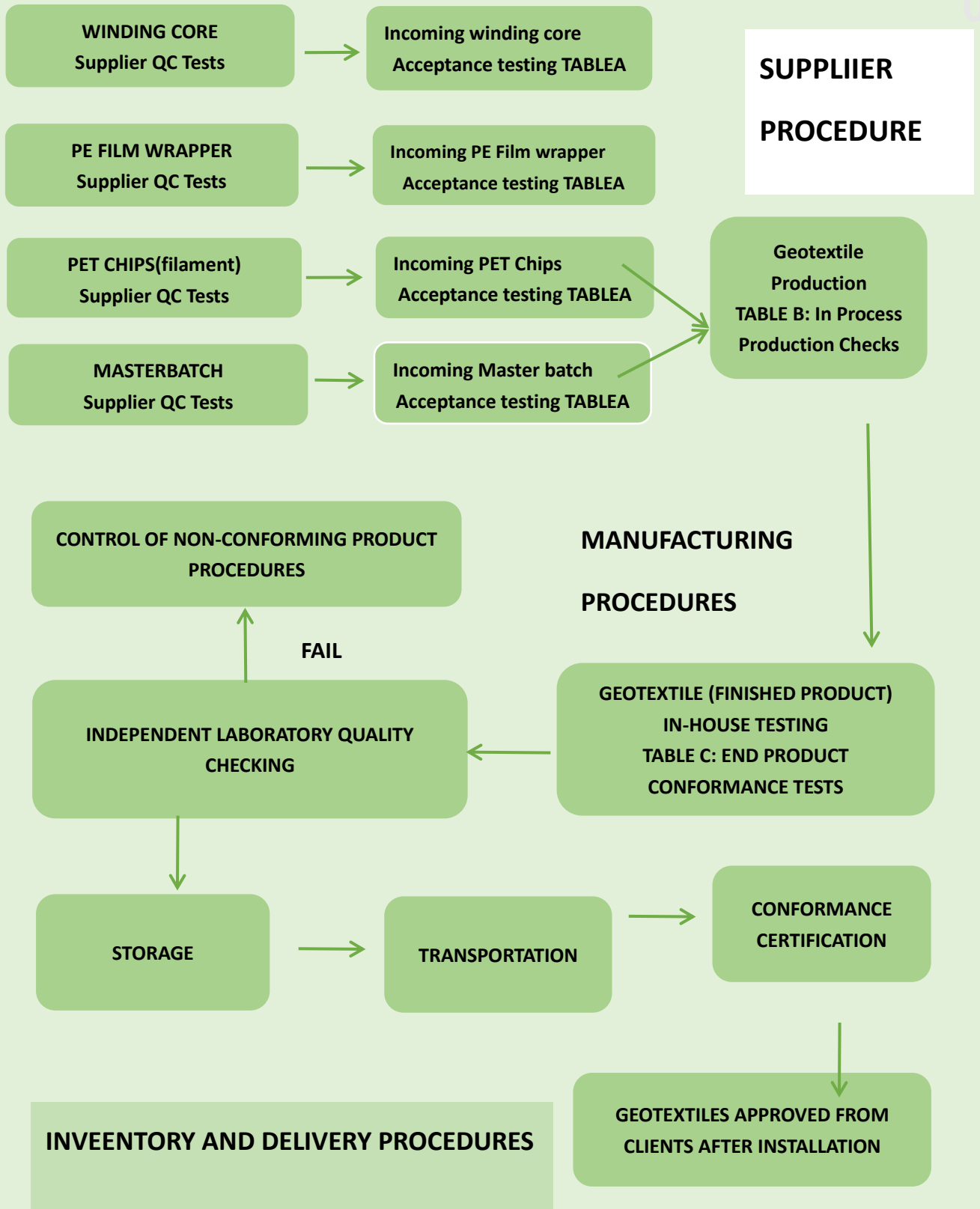


## IX FLOW CHART OF QUALITY CONTROL IN PRODUCTION PROCESS





## X GEO TEXTILE PRODUCTION QUALITY TEST





## XI Raw Material Verification Testing

Test	Units of Measure	Test Method Description	Standard Frequency of Testing	Compliance, Supplier&/or Production Test
Polyester Chip Intrinsic Viscosity	-	ASTM D1238 (mod)	Once per batch	Supplier
Polyester Moisture Content	%	ASTM D1238 (mod)	Once per batch	Supplier
Masterbatch Chip Density	Chips per gram	In house	Once per batch	Supplier
Masterbatch Bulk Density	g/liter	In house	Once per batch	Supplier
PE Wrapper Mass	g/m <sup>2</sup>	ASTM	Once per batch	Supplier
PE Wrapper Thickness	mm	GB/T4456-1996	Once per batch	Supplier
PE Wrapper Tensile Strength	N	GB/T4456-1996	Once per batch	Supplier
Winding Core Compressive Resistance	N	GB/T4456-1996	Once per batch	Supplier



## XII Production Process of Product Testing

Test	Test item	Units of Measure	Test Method Description	Standard Frequency of Testing	Compliance, Supplier&/or Production Test
Foreign matter	Oil	m <sup>2</sup>	In house	Whole process	Production
	Break stitch	m <sup>2</sup>	In house	Whole process	Production
	Sundries	m <sup>2</sup>	In house	Whole process	Production
	Motley	m <sup>2</sup>	In house	Whole process	Production
The quality of cloth	Uniformity	% CV	In house	Whole process	Production
Dimensional stability	Length	m	In house	Per roll	Production
	Width	m	In house	Whole process	Production
	Roll diameter	cm	In house	Per roll	Production
	Edge cutting	cm	In house	Whole process	Production
Coil quality	Winding tightness	cm	In house	Per roll	Production
	End face uniformity	cm	In house	Per roll	Production
	Cross cutting straightness	cm	In house	every time	Production
	Splicing straightness	cm	In house	every time	Production
Mass balance	Gross weight	Kg	In house	Per roll	Production
	Net weight	Kg	In house	Per roll	Production
	Mass unit area	g/m <sup>2</sup>	In house	Per roll	Production



### XIII Finished Products

Test	Units of measure	Test Method Description	Standard Frequency of Testing	Compliance, Supplier&/or Production Test
Mass unit area	g/m <sup>2</sup>	GB/T13762-2009 AS3706.1 ASTM D5261-10	Each working shift	Compliance
Thickness	mm	GB/T13761-2009 AS3706.1 ASTM D5199-12	Each working shift	Compliance
Wide strip tensile test	KN/m	GB/T15788-2005 AS3706.2 ASTM D4595-11	Each working shift	Compliance
Trapezoidal tear test	N	GB/T13763-2010 AS3706.3 ASTM D4533-15	Each working shift	Compliance
CBR Burst strength	N	GB/T14800-2010 AS3706.4 ASTM D6241-14	Each working shift	Compliance
Drop cone ( h50 )	mm	GB/T17630-1998 AS3706.5	Each working shift	Compliance
'G' Rating	G	Austroroads	Each working shift	Compliance
Puncture resistance	N	GB/T19978-2005 ASTM D4833M	Each working shift	Compliance
Flow rate	l/m <sup>2</sup> /sec	GB/T15789-2005 AS3706.7 ASTM D4491-16	Every three month	Compliance
Pore size	μm	GB/T14799-2005 AS3706.6 ASTM D4751-16	Every three month	Compliance





## **XIV Quality Assurance**

The quality assurance is to ensure product quality and stability, so as to effectively meet the market and customer needs. In order to effectively control product quality, we established systematic and strict testing standards and effective control procedures to ensure product quality. The program will be frequently reviewed, these procedures can ensure that the product process parameters are effectively controlled.

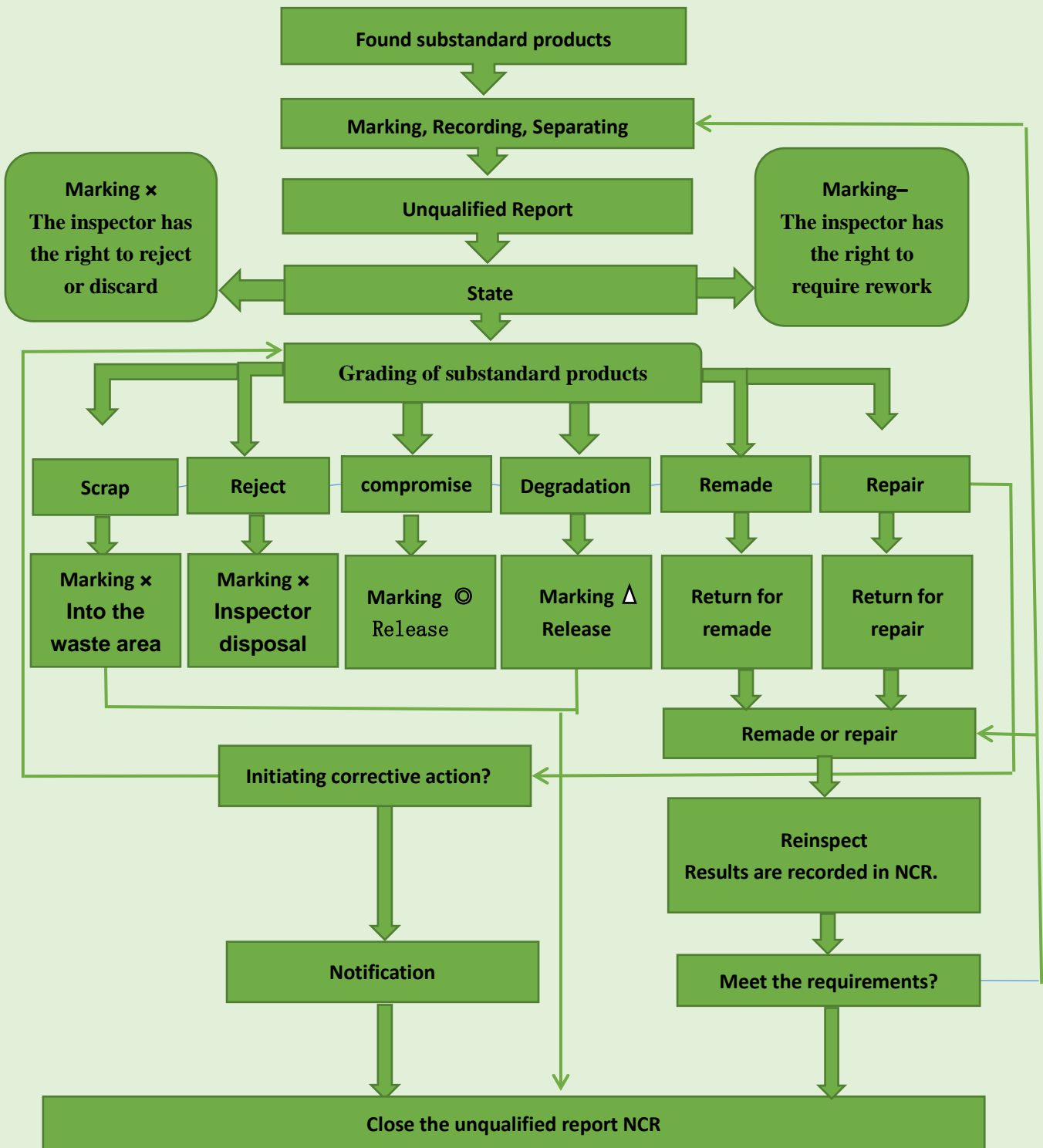
Our enterprise has passed ISO: 9001-2008 quality management system certification, it is able to satisfy customers with the products.

Our production test frequency follows the following:

<b>Product</b>	<b>Meters</b>	<b>Wide</b>	<b>QC test Frequency</b>	<b>QA test Frequency</b>
GE 150	260	6	20280	62400
GE 200	195	6	15210	46800
GE 250	150	6	17100	36000
GE 300	125	6	14250	30000
GE 350	105	6	11970	25200
GE 400	90	6	10260	21600
GE 450	80	6	9120	19200
GE 500	70	6	7980	16800
GE 550	65	6	7410	15600



### XV Nonconforming Product Control Flow Chart



## XVI Material Safety Data Sheet

Geotextiles, also known as geotextile fabric, is a kind of permeable geosynthetics by Synthetic fiber punching. Geotextile is one of the new Geosynthetic materials. The end product is a cloth-like , generally 4 to 6 meters wide and in 50 to 300 meters long. Geotextile is made of continuous needling additive which contains less than 1% of additives (wax and carbon black), it is non-dangerous goods.

Product: Polyester Continuous Filament Needle Punched Geotextile  
 Supplier: Dalian Geo-Link Geosynthetics Co, Ltd  
 Suitable Extinguishing: Water Spray Fire Extinguisher  
 Foam Extinguisher  
 Dry Chemical Extinguisher  
 Carbon Dioxide Extinguisher

The special hazardous substance (may burn): CO, CO<sub>2</sub>

Personal Precautions: Masks  
 Environmental Precautions: None  
 Cleaning methods: Medicine clean-up

### Disposal Considerations

Product: Residual material or material that has been excavated both can be used with landfill soil materials and mixed together, it can also be added by high temperature into the secondary fuel and cement, or made for renewable energy production.

Contaminated Packaging: Contaminated packaging can be used with landfills Of the soil material mixed together, it can also be added by high temperature into the secondary fuel and cement, or made for renewable energy production.

Transport Information: According to the national and international shipping terms, all products are assured.

Regulatory information: According to the provisions of the European Community, the product can be produced without labels.

Additional Information: All product data is the latest, but we cannot guarantee product attribute and the equality of the law.

### Applications:

Flexible pavement reinforcement; road cracks repairing; pavement reflection crack preventing; Roads (including temporary roads), railway, embankments, mining fields, airport, sports fields and other projects to strengthen the foundation.

Geotextile separation layer of highways, airports, railway track and artificial rock-fill; The filter layer of water wells, relief wells and diagonal strut in water conservancy project; Landfill Liner Cushioning.

Contact: Helen Hou Tel: +86 15804257316



## **XVII Product Description**

Polyester continuous filament needle punched geotextile is made of polyester chip by high-temperature-pressure to be liquid, air drawing into wire, lapping, needle punched then winding into roll to become finished products, which also called a step molding method. Usually, this form of manufacturing has superior hydraulic performance and good applications, including separation, filtration, protection, reinforcement and drainage, etc. According to customer requirements, it can be covered and composed with geomembrane, geonet and other materials to become geomembrane-geotextile composites, geonet-geotextile composites and other products by heat treatment

### **Physical and chemical properties:**

Appearance:	yellow, white, black, gray and other colors
Boiling point / melting point:	255-260 °C
Volatile component:	0%
Vapor pressure:	Not applicable
Flash point:	No data available
Auto ignition	No data
pH (1% solution) :	Not applicable

### **Stability and reactivity:**

Chemical reactivity:	No issues in solid form
Materials to avoid:	Petrochemical solvents and exposure to naked flame

Polyester will not burn easily unless exposed to intense flame source.

### **Composition:**

Polyester staple fiber needle punched geotextile:	99%
UV stabilizer:	0.5%
Wax /carbon black/lube/pigment :	0.5%

### **Shipping note:**

Packing should be complete, the loading should be safe when loading. It is strictly prohibited during mixed with antioxidant, etc. Transit should prevent insolate, rain, heat.

### **Product exposure limits:**

When the product is removed from the package, make sure it is exposed to UV light no longer than a month if inevitable.



Exposed geotextile



Exposed test stand



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## **XVIII Health Hazard Information**

### **Preventive measures:**

Ingestion: No special measures required.

Eyes: Please wear tinted glasses

Skin: Not Applicable

Inhaled: Please wear a mask

### **First aid measures:**

Ingestion: No special measures required

Eyes: If necessary flush with water. If irritation continues seek medical advice.

Inhalation: If sensitivity occurs remove person to uncontaminated area.

Hand: Please flush with water.

Skin: Please wash skin with soap and water.

Emergency contact: Helen Hou Tel: +86 15804257316

Add: No.8888-1 Southeast Industrial Zone, Youjia, Ganjingzi District, Dalian, China.

Tel: +86-(0) 411 6600 7883 Fax: +86-(0) 411 6600 7882



## **XIX Storage and Handling**

Polyester continuous filament needle punched geotextile do not require special storage conditions for periods of less than 6 months. The geotextile is made of polyester and polypropylene fibers and is resistant to short term UV exposure. It can retain a high proportion of its strength characteristics.

The packaging film contains anti-UV agent and inhibitor, which makes the inside of the product safe from UV damage. Once the packaging film is removed, the product should be covered properly in application process, if can't, the application process should be no more than 30 days.

The product shall be stored in waterproof condition. The geotextile entered by water increased the weight of the product, which makes the product difficult to handle. Our finished roll's maximum weight is no more than 250kg, so we suggest using a weight balancing device to carry the product to avoid weight over-concentration and product damage. Normally we use forklifts, cranes and other dedicated devices.

During the product handling and transportation process, we can take advantage of dedicated devices or field staff workforce when working. The geotextile less than 3 meters wide is more suitable to the construction conditions. The product with stitching logo requires special attention, in case we can make appropriate adjustment to meet the factory's requirements.



Spot-paving Geotextile



Spot-storing Geotextile



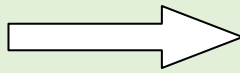
## XX Marking and Packaging

Our identification standard will be implemented as site owner required. Such as: ASTM (American Society for Testing Materials); AS (Australian National Standards); GB (People's Republic of China National Standards).

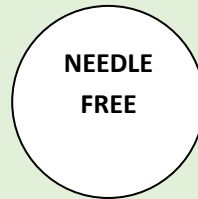
Each panel is identified by a unique panel number which can be tracked for QC&QA. The mark is not only pasted at both ends of the volume but attached to the inside of each roll. We pasted laying direction indicator for convenient and facilitative which can help users to use it better; we produce the no needle geotextile, so we will paste without needle identification on the packaging; 'joint' identification means that joint discontinuous geotextiles so that the product can be used normally.



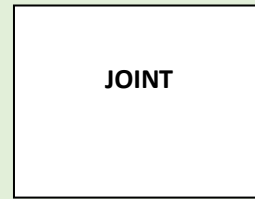
→ Each roll is identified by a unique roll number which can be tracked for QA&QC.



Laying direction



No needle



Joint

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*This content of this brochure include information from produce to after-sales service, but the special circumstances is not take into account. If you have some special requirements, please contact with us before you order products. We will give you a satisfactory reply as soon as possible.*

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