

The background of the entire page is a photograph of a warehouse filled with stacks of large rolls of black HDPE geomembrane. The rolls are arranged in neat rows, and some have white numbers (1, 3, 6, 7, 15, 14, 20, 21) written on their ends. A large, semi-transparent green circular logo with the text 'GEOSYNTHETICS' is overlaid on the right side of the image. The overall lighting is somewhat dim, with a blueish tint, suggesting an industrial setting.

**JINSEED**

GEOSYNTHETIC SOLUTIONS

# HDPE Geomembrane Liner System

Engineered for the world's most demanding containment applications — exceeding GRI GM13 standards with independently verified performance.

GRI GM13 CERTIFIED

TRI VERIFIED

CE CERTIFIED (BTTG)

IGS MEMBER

## INTRODUCTION

# Setting a Higher Standard for Geomembrane Performance

Modern containment projects demand liner systems that can reliably perform under extreme chemical exposure, prolonged UV radiation, and sustained mechanical loading — often for decades. Jinseed HDPE Geomembranes are engineered to exceed these demands.

From hazardous waste landfills and mining tailings facilities to reservoir liners and industrial lagoons, the consequences of liner failure are severe — environmental contamination, regulatory liability, and costly remediation.

Our products are independently tested and certified by internationally accredited laboratories. Every roll carries traceable quality records — giving engineers and site owners the confidence to specify Jinseed for their most critical projects.

*"Jinseed HDPE Geomembrane is independently tested against the full GRI GM13 test suite by TRI Environmental (USA) — ."*

### ESCR

**>3,000 hrs**

Environmental Stress Crack Resistance — long-term performance under sustained loading

### HPOIT

**>600 Mins**

High-Pressure OIT — outstanding oxidative and thermal resistance

### THICKNESS TOLERANCE

**±3%**

vs. ±10% industry standard — eliminating weak points across every roll

### STANDARD EXCEEDED

**GRI GM13**

Full-suite verification by TRI Environmental, USA

## Engineered Performance Advantages

### Outstanding ESCR (>3,000 hours)

Excellent resistance to environmental stress cracking under long-term loading — far exceeding the GM13 minimum of 300 hours.

### Exceptional Oxidative Stability (HPOIT >600 Mins)

Outstanding protection against oxidative degradation, ensuring full-life durability across the liner's service period.

### Superior UV Resistance

Maintains structural integrity and performance properties even after prolonged solar radiation — suitable for extended exposed applications.

### Chemical & Biological Resistance

Excellent resistance to chemical and biological degradation — ideal for mining, landfill, and aggressive industrial containment environments.

### High Puncture Resistance

Engineered to withstand mechanical stresses during installation and in-service loading, significantly enhancing liner integrity and safety.

### Advanced Stabilization System

Proprietary blend of antioxidants, carbon black, and UV stabilizers incorporated throughout the resin — significantly extending service life.

MANUFACTURING EXCELLENCE

## Manufactured to a Higher Tolerance

### EXTRUSION TECHNOLOGY

#### Flat Die Extrusion

Superior uniformity across the full panel width — no streaking, no variation

### THICKNESS TOLERANCE

**±3%**

vs. ±10% standard — eliminating localised thin zones that create weak points

The tight ±3% tolerance is not merely a manufacturing achievement — it translates directly to liner integrity in the field. In conventional production, a nominal 1.5 mm liner may contain zones as thin as 1.35 mm. Jinseed's controlled process ensures every point across the roll meets specification.

*"Flat die extrusion with ±3% thickness control — a liner you can trust at every square metre, not just on average."*



# Independently Verified. Internationally Recognised.

**USA**

**TRI — GRI GM13 Full-Suite Certificate**

Jinseed holds a full-panel GRI GM13 certificate from TRI Environmental (USA), the leading independent geosynthetics testing laboratory in North America — covering all physical, mechanical, and chemical performance requirements.

**EU / UK**

**BTTG — CE Certification**

CE certification issued by BTTG (British Textile Technology Group), a UKAS-accredited notified body. Confirms compliance with European harmonised standards and enables use in EU and UK civil engineering projects.

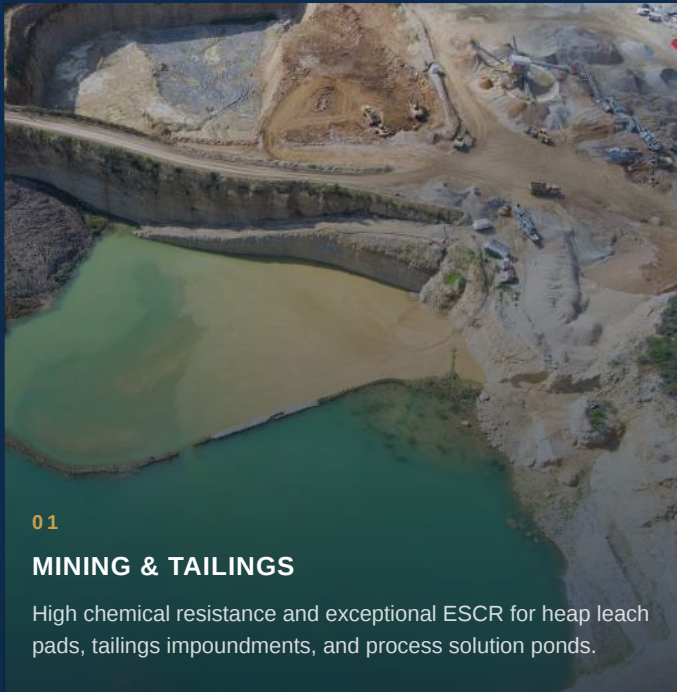
**INTERNATIONAL**

**IGS — International Geosynthetics Society Member**

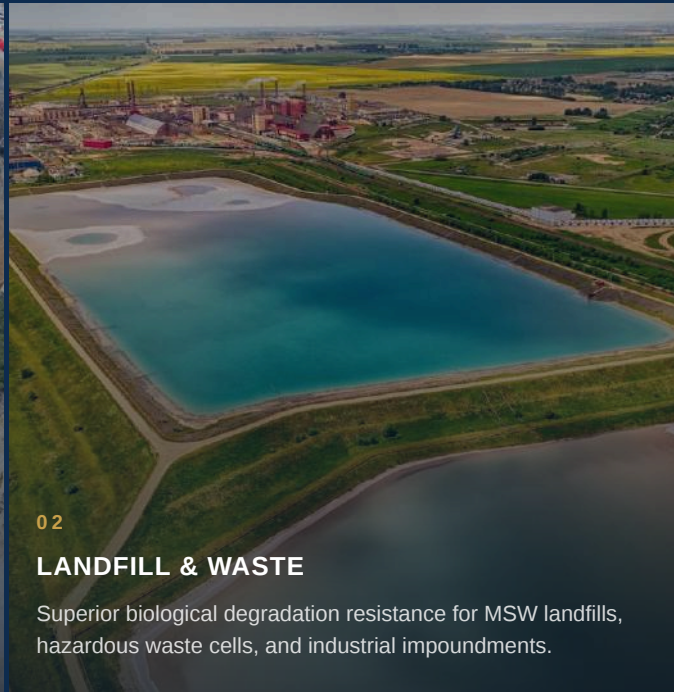
Corporate member of the International Geosynthetics Society (IGS), the world's leading professional body for the geosynthetics industry — reflecting our commitment to technical excellence and engineering best practice.

Property	GRI GM13 Minimum	Jinseed Result	Test Method
<b>ESCR (Environmental Stress Crack Resistance)</b>	<b>300 hours</b>	<b>&gt; 3,000 hours</b>	<b>ASTM D5397</b>
<b>HPOIT (High-Pressure OIT)</b>	<b>400 Mins</b>	<b>&gt; 600 Mins</b>	<b>ASTM D5885</b>
Thickness Tolerance	±10%	±3%	ASTM D5994
Tensile Properties (yield / break)	Per GM13 Table	Exceeds requirement	ASTM D6693
Tear Resistance	Per GM13 Table	Exceeds requirement	ASTM D1004
Puncture Resistance	Per GM13 Table	Exceeds requirement	ASTM D4833

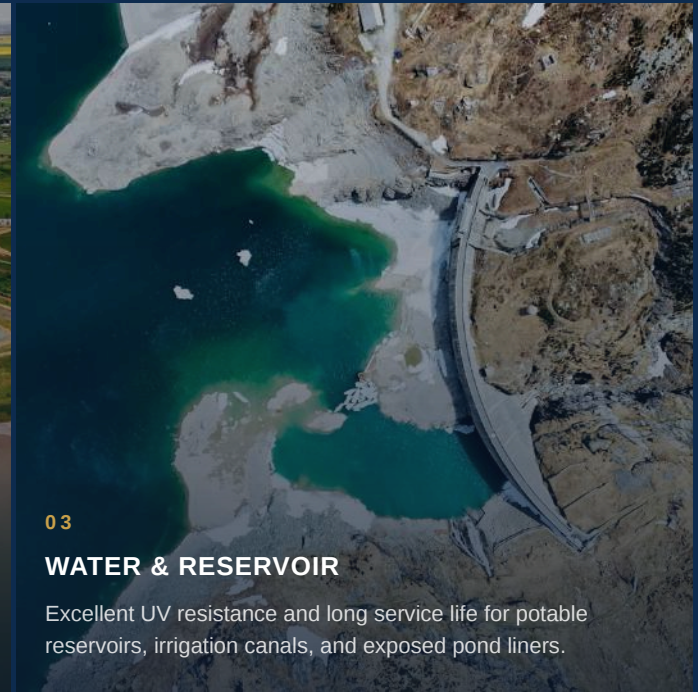
# Built for the Most Demanding Environments



**01**  
**MINING & TAILINGS**  
High chemical resistance and exceptional ESCR for heap leach pads, tailings impoundments, and process solution ponds.



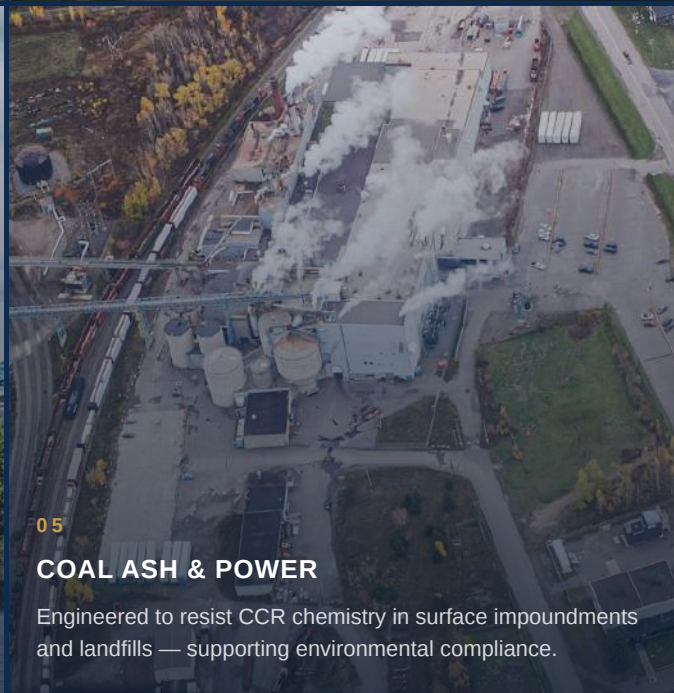
**02**  
**LANDFILL & WASTE**  
Superior biological degradation resistance for MSW landfills, hazardous waste cells, and industrial impoundments.



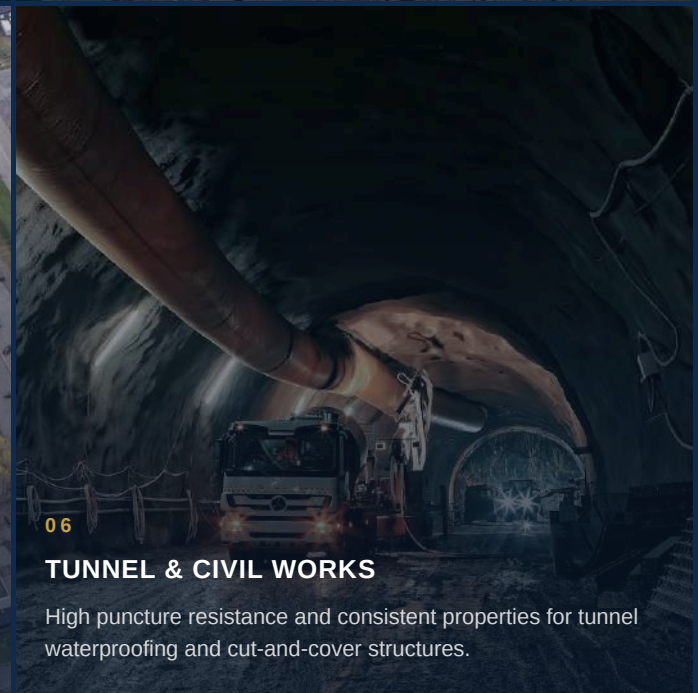
**03**  
**WATER & RESERVOIR**  
Excellent UV resistance and long service life for potable reservoirs, irrigation canals, and exposed pond liners.



**04**  
**SECONDARY CONTAINMENT**  
Consistent properties for secondary containment beneath fuel storage, chemical process areas, and industrial sites.



**05**  
**COAL ASH & POWER**  
Engineered to resist CCR chemistry in surface impoundments and landfills — supporting environmental compliance.



**06**  
**TUNNEL & CIVIL WORKS**  
High puncture resistance and consistent properties for tunnel waterproofing and cut-and-cover structures.

## JINSEED

### About Jinseed

Jinseed is a specialist geomembrane manufacturer committed to delivering independently verified, high-performance liner solutions for critical containment applications worldwide. Our products are manufactured using precision flat die extrusion technology and subjected to comprehensive third-party quality assurance.

As a corporate member of the International Geosynthetics Society (IGS) and holder of internationally recognised certifications — TRI GRI GM13 and BTTG CE — Jinseed is positioned to supply projects to the highest global standards.

#### CERTIFICATION

##### TRI — GRI GM13

Full-suite independent test

#### CERTIFICATION

##### CE — BTTG

European harmonised standard

#### MEMBERSHIP

##### IGS International

Geosynthetics Society

Jinseed has not performed design or engineering services to determine whether its products comply with any specific project plans or specifications. All performance data cited herein is based on independent laboratory testing results. Specifications are subject to change without notice.

