

**NATURAL RESOURCES CONSERVATION SERVICE**  
**Wyoming**  
**CONSTRUCTION SPECIFICATIONS**  
**FOR**  
**POND SEALING OR LINING**  
**HDPE and LLDPE LINERS**

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(Owner/Operator)

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(Project Title)

**GENERAL**

Installation shall be in accordance with an approved design and plan. Details of construction shown on the drawings but not included herein are considered as a part of this specification. Construction activities shall be in accordance with applicable OSHA regulations.

**SITE PREPARATION**

The subgrade for the liner shall be smooth, free of organic materials, rocks larger than 3/8 inch, any angular rocks and any sharp objects. The subgrade for the liner shall be compacted to provide a firm, unyielding foundation.

**ANCHOR TRENCH**

An anchor trench shall be used unless another method of anchorage is shown on the drawings. Unless otherwise shown on the drawings the trench details shall be in accordance with Manufacturer recommendations. The anchor trench backfill shall be compacted fine grain materials.

**PLACING THE MEMBRANE**

The layout and installation of flexible membranes shall be in accordance with Manufacturer recommendations. No construction equipment shall be allowed on the lining except for lightweight ATV's and seaming equipment. Field splices shall be in accordance with Manufacturer specifications. Splice joints shall be watertight.

All defective liner areas and bad seams shall be repaired.

**SOIL COVERS**

A soil cover when shown on the drawings shall be placed to the thickness specified. Placement of soil cover and compaction operations shall not displace or damage the liner. Soil materials shall be free of sharp rocks or objects.

A minimum of 12 inches of soil shall be kept between the liner and any equipment.

**MATERIALS**

The Supplier for the membrane materials shall provide a copy of the applicable Manufacturer's Product Specifications. Materials shall be of the type and thickness shown on the drawings. Materials shall equal or exceed the requirements listed in Tables 1 through 4.

**ADDITIONAL SPECIFICATIONS**

Table 1 – Smooth HDPE Liner

Property of Material	Test Methods	Requirements	
		40 mil	60 mil
Nominal Thickness		40 mil	60 mil
Tensile Properties	ASTM D 638		
Yield Stress, lb/in		84	126
Break Stress, lb/in		152	228
Yield elongation, percent		12	12
Break elongation, percent		560	560
Tear Resistance, lb	ASTM 1004	28	42

All values, unless otherwise specified, are minimum average roll values as reported for the test method.

Table 2 – Textured HDPE Liner

Property of Material	Test Methods	Requirements	
		40 mil	60 mil
Nominal Thickness		40 mil	60 mil
Tensile Properties	ASTM D 638		
Yield Stress, lb/in		84	126
Break Stress, lb/in		60	90
Yield elongation, percent		12	12
Break elongation, percent		100	100
Tear Resistance, lb	ASTM 1004	28	42

All values, unless otherwise specified, are minimum average roll values as reported for the test method.

Table 3 – Smooth LLDPE Liner

Property of Material	Test Methods	Requirements	
		40 mil	60 mil
Nominal Thickness		40 mil	60 mil
Tensile Properties	ASTM D 638		
Yield Stress, lb/in		60	94
Break Stress, lb/in		170	225
Yield elongation, percent		13	13
Break elongation, percent		800	800
Tear Resistance, lb	ASTM 1004	22	33

All values, unless otherwise specified, are minimum average roll values as reported for the test method.

Table 4 – Textured LLDPE Liner

Property of Material	Test Methods	Requirements	
		40 mil	60 mil
Nominal Thickness		40 mil	60 mil
Tensile Properties	ASTM D 638		
Yield Stress, lb/in		58	87
Break Stress, lb/in		80	120
Yield elongation, percent		13	13
Break elongation, percent		350	350
Tear Resistance, lb	ASTM 1004	23	35

All values, unless otherwise specified, are minimum average roll values as reported for the test method.