



Iron Woman
Construction and
Environmental Services LLC

IRON WOMAN CONSTRUCTION & ENVI

Compark Village South F1
Belford & Peoria
Parker, CO 80134

To:
Greg McIlvain
Belford North Metro District
8390 E Crescent Parkway
Suite 300
Greenwood Village, CO 80111

From:
Liz Resetar
Iron Woman Construction
5680 Emerson St
Denver, CO 80216

SUBMITTAL INFORMATION

Submittal No: 23
Submittal Description: Conspan Membrane
Date Submitted: 07/26/2021
Response Requested By: 07/29/2021
Date Response Received:

PRODUCT DATA

ITEM #	DESCRIPTION	DWG / SPEC #	SECTION #	ITEM STATUS
	Conspan Membrane			New

Remarks:

Conspan Membrane for review & approval

I certify that the above submitted item(s) have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise noted.

It is our understanding that IronWoman has previously coordinated the material and installation of the waterproofing with Contech on another project (Pena Station). Please provide this submittal to Contech for approval.

- No Exception Taken
- Approved as Noted
- Rejected
- Revise and Resubmit

This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the submittal during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite, information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction; coordination of his or her Work with that of all other trades; and for performing all work in a safe and satisfactory manner.

Manhard Consulting, Ltd.

Date: 07/28/2021 By: Gary Iwata

Reviewed By:	
Date:	
Status:	<input type="radio"/> Approved <input type="radio"/> Approved as Noted <input type="radio"/> Revise & Resubmit <input type="radio"/> Rejected
Comments:	

30 mil PVC Geomembrane Specifications

Certified Properties	ASTM	PVC 30
Thickness	D-5199	30 +1.5 mil .76 + .04 mm
Tensile Properties ₃ Strength at Break Elongation Modulus at 100%	D-883 ₄ Min	73 lbs/in 12.8 kN/m 380% 32 lbs/in 5.6 kN/m
Tear Strength	D-1004 ₄ Min	8 lbs 35 N
Dimensional Stability	D-1204 ₄ Max Chg	3%
Low Temperature Impact	D-1709 ₄ Pass	-20° F -29° C
Index Properties	ASTM	
Specific Gravity	D-792 Typical	1.2 g/cc
Water Extraction Percent Loss (max)	D-1239 ₄ Max Loss	.15%
Average Plasticizer Molecular Weight	D-2124 _{4,5}	400
Volatile Loss Percent Loss (max)	D-1203 ₄ Max Loss	0.7%
Soil Burial: Break Strength Elongation Modulus at 100%	G160 ₄ Max Chg	5% 20% 20%
Hydrostatic Resistance	D-751 ₄ Min	100 psi 690 kPa
Seam Strengths	ASTM	
Shear Strength ₃	D-882 ₄ Min	58.4 lbs/in 10 kN/m
Peel Strength ₃	D-882 ₄ Min	15 lbs/in 2.6 kN/m



40 mil PVC Geomembrane Specifications

Certified Properties	ASTM	PVC 40
Thickness	D-5199	40 +2 mil 1.02 + .05 mm
Tensile Properties ₃ Strength at Break Elongation Modulus at 100%	D-883 ₄ Min	97 lbs/in 17.0 kN/m 430% 40 lbs/in 7.0 kN/m
Tear Strength	D-1004 ₄ Min	10 lbs 44 N
Dimensional Stability	D-1204 ₄ Max Chg	3%
Low Temperature Impact	D-1709 ₄ Pass	-20° F -29° C
Index Properties	ASTM	
Specific Gravity	D-792 Typical	1.2 g/cc
Water Extraction Percent Loss (max)	D-1239 ₄ Max Loss	.20%
Average Plasticizer Molecular Weight	D-2124 _{4,5}	400
Volatile Loss Percent Loss (max)	D-1203 ₄ Max Loss	0.5%
Soil Burial: Break Strength Elongation Modulus at 100%	G160 ₄ Max Chg	5% 20% 20%
Hydrostatic Resistance	D-751 ₄ Min	120 psi 830 kPa
Seam Strengths	ASTM	
Shear Strength ₃	D-882 ₄ Min	77.6 lbs/in 14 kN/m
Peel Strength ₃	D-882 ₄ Min	15 lbs/in 2.6 kN/m