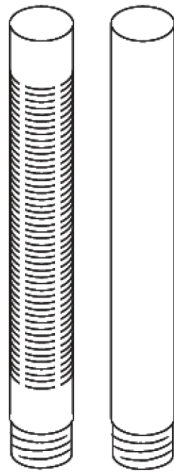




ENVIRONMENTAL MANUFACTURING INC.

PRODUCT CATALOG



MEMBER OF THE
NATIONAL GROUNDWATER
ASSOCIATION

The logo consists of a vertical stack of seven horizontal bars. The top bar is blue, the second is green, the third is blue, the fourth is green, the fifth is green, the sixth is green, and the seventh is green. To the right of these bars, the words "ENVIRONMENTAL" and "MANUFACTURING INC." are stacked vertically in a bold, black, sans-serif font.

ENVIRONMENTAL MANUFACTURING INC.

Thank you for your interest in Environmental Manufacturing, Inc. (EMI)

EMI was established in 1996 with the goal of becoming both a fabricator of PVC pipes, casing and screens as well as a distributor of completion products for environmental and remediation wells. Since then, EMI sales have expanded both nationally and internationally including Central and South America as well as Asia and the Middle East.

The quality of our products is of the highest importance. Our strict adherence to ASTM and industry standards guarantee quality in every product. All of our PVC pipe products are fabricated from Type 1, Grade 1 PVC and are manufactured to applicable ASTM and NSF standards. All threading is performed to ASTM F 480 specifications (unless otherwise specified) and all of our monitor well casings/screens are no-print, non-solvent cleaned, and plastic wrapped, boxed, or encased. All other environmental well products distributed by EMI are held to the same high standards.

In order to maintain the high quality of our products, we have invested significantly in our plant and machinery. We built a new factory in 1999 and have invested in new machinery including state of the art CNC lathe threading machines and new computer controlled slotting machines. These investments and improvements promote our products and services.

We believe our customer service, sales, and support contribute greatly to our success. While this catalog shows the products we offer, we hope you give us a chance to demonstrate our superior customer service. We look forward to meeting your needs and contributing to your success!

Sincerely,

A handwritten signature in black ink that reads "Richard Heskett". The signature is written in a cursive, flowing style.

Richard Heskett, President

CUSTOMER TERMS AND CONDITIONS OF SALE

Customer Accounts:

In order to establish an open account with EMI, a credit application must be submitted along with credit references. We will contact the references and you will be notified as to what type of credit has been established. If your company is tax exempt, please submit an exemption certificate with your application.

Orders and Contacts:

Orders and Contracts are subject to acceptance. Any statement which modifies EMI's conditions as set forth, must be first accepted in writing by EMI.

Ordering:

Please use the part number, size, and other necessary information when ordering material. EMI reserves the right to correct any clerical errors or omissions in quotations or other documents.

Cancellations:

Any order cancelled after acceptance and shipment is subject to a 20% cancellation fee. In the case of specialized or custom-made products, these are non-cancelable.

Returns:

A minimum 20% restocking fee will be applied to all returned goods. Returns must be made within 30 days of purchase. Return freight is the responsibility of the customer. Specialty items may not be returned. All returns are subject to the approval of EMI.

Prices and Quotations:

Orders will be invoiced at the prices in effect at the time of shipment. Prices are FOB point of shipment unless otherwise specified. All prices are subject to change without notice. All quotations are subject to review after 30 days.

Minimum Invoice:

A minimum invoicing charge of \$25.00 will be applied to any shipping order to cover packing, shipping, and order processing.

Taxes:

Any tax that may be imposed by law on the sale of articles made or sold by EMI shall be added to the selling price of such articles. If your order needs to be tax exempt, please include this information during the quotation process.

Terms:

EMI's terms of sale are Net 30 days.

Past Due Accounts:

A service charge of 1.5% per month will be automatically added on all invoices past due 45 days.

Return Check Charge:

A \$25.00 charge will be applied to any check returned for insufficient funds.

WARRANTIES AND LIMITATION OF LIABILITY

Warranties:

EMI warrants to the customer that the goods being sold will be free from any liens or encumbrances and that title to the goods will be conveyed to the customer. EMI warrants the goods against defects in material and workmanship under normal conditions of usage and service for one year from date of shipment. Damaged goods resulting from the use of explosives, abuse, misuse, negligence or accident voids all warranties. There are no other warranties, express or implied, including the warranties of merchantability of fitness for a particular purpose. EMI's sole obligation and the customer's sole remedy under this warranty is limited to and shall be fully discharged by replacing or repairing any defective part, F.O.B point of manufacture.

Limitation of Liability:

EMI shall not be liable for prospective profits or special, indirect or consequential damages whether any such claim or lawsuit be based on tort, contract or otherwise. In no event shall recovery of any kind against EMI be greater than the purchase price of the specific goods sold and causing the alleged damage.

CREDIT APPLICATION

We are pleased that you have selected Environmental Manufacturing Inc. (EMI) as a supplier. We are committed to providing the best products and service to our customers. Please complete the requested information so that we can establish a credit account to serve you better.

Legal Business Name:	
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Billing Address:	

Accounts Payable Contact:	
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Shipping Address:	

Phone:	
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Fax:	
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Email:	
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Form of Business:	<input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Sole Proprietorship
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State Tax Exemption	<input type="checkbox"/> Yes. (Please submit a copy of your certificate with this application.)
	Tax ID Number:

Owner:	
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Business Established:	Federal ID#:
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Corporate Officers:	
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Corporate Officers:	
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Bank Name:	
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Bank Address:	

Credit References: (Include Phone)	

Credit References: (Include Phone)	
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EMI's Terms are Net 30 days. Finance charges can be assessed on invoices over 45 days. The information on this form will be used for the purpose of establishing credit and will be kept confidential. Please sign below as acknowledgement of these terms and conditions. Please note that EMI is a supplier and not a subcontractor. **PAYMENT IS NOT DEPENDENT ON PAYMENT OF A JOB AND/OR CONTRACT OF CLIENT.**

Signature	Date
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PIPE

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ACCESSORIES

PVC MONITOR PIPE SPECIFICATIONS

1. All casing, pipe, and screen shall be PVC Flush Threaded.
2. The PVC flush threaded casing pipe and screen shall be manufactured from Type 1, Grade 1 PVC resins as specified in ASTM D1785. The casing pipe shall also be approved by the National Sanitary Foundation (NSF) for use in potable water applications.
3. All PVC shall be free of ink markings.
4. To assure easy make up, the PVC monitor pipe and screen must be threaded to the ASTM F480 specification with O-ring groove turned in the male thread. The manufacturer will provide the O-ring.
5. All threaded connections must be manufactured using computer controlled threading machines to insure precision of cut and consistency between manufacturing lots.
6. All PVC flush threaded monitor pipe shall make up in stated lengths, shoulder to shoulder.
7. The slots in all PVC screen pipe must be cut on precision computer controlled slotting machines, providing uniform slot and space dimensions.
8. All PVC screen pipe must be de-burred and cleaned using a high pressure air and/or water process to ensure unobstructed and dust free slot opening.
9. The finished monitor pipe and screen shall be received in visibly clean condition, free of oil, grease, dirt, and fingerprints.
10. The monitor pipe and screen shall be individually packaged in plastic and then packed in heavy wall corrugated boxes clearly labeled with the brand name and contents.

PIPE

FITTINGS

ACCESSORIES

WEIGHTS & DIMENSIONS OF SCHEDULE 40 PVC *

Pipe ID Nominal	Pipe OD Average	Pipe ID Average	Minwall Thickness	Approx. Ship Wt. in Lbs./Ft	Max Water Pressure PSI **
0.50"	0.840"	0.608"	0.109"	0.166	600
0.75"	1.050"	0.810"	0.113"	0.220	480
1.00"	1.315"	1.033"	0.133"	0.324	450
1.25"	1.660"	1.364"	0.140"	0.439	370
1.50"	1.900"	1.592"	0.145"	0.525	330
2.00"	2.375"	2.049"	0.154"	0.702	280
2.50"	2.875"	2.445"	0.203"	1.108	300
3.00"	3.500"	3.042"	0.216"	1.449	260
4.00"	4.500"	3.998"	0.237"	2.064	220
5.00"	5.563"	5.017"	0.258"	2.966	190
6.00"	6.625"	6.031"	0.280"	3.630	180
8.00"	8.625"	7.943"	0.322"	5.845	160
10.00"	10.750"	9.976"	0.365"	7.745	140
12.00"	12.750"	11.890"	0.406"	10.240	130

* Per ASTM D-1785 for PVC Pipe

** Water at 23°C (73° F) for Unthreaded Pipe

PIPE

FITTINGS

ACCESSORIES

WEIGHTS & DIMENSIONS OF SCHEDULE 80 PVC *

Pipe ID Nominal	Pipe OD Average	Pipe ID Average	Miniwall Thickness	Approx Ship Wt. in lbs/ft	Max Water Pressure PSI**
0.50"	0.840"	0.528"	0.147"	0.210	850
0.75"	1.050"	0.724"	0.154"	0.283	690
1.00"	1.315"	0.935"	0.179"	0.417	630
1.25"	1.660"	1.256"	0.191"	0.573	520
1.50"	1.900"	1.476"	0.200"	0.695	470
2.00"	2.375"	1.913"	0.218"	0.961	400
2.50"	2.875"	2.289"	0.276"	1.466	420
3.00"	3.580"	2.864"	0.300"	1.961	370
4.00"	4.500"	3.786"	0.337"	2.866	320
5.00"	5.563"	4.767"	0.375"	3.888	290
6.00"	6.625"	5.709"	0.432"	5.466	280
8.00"	8.625"	7.565"	0.500"	8.301	250
10.00"	10.750"	9.492"	0.593"	12.306	230
12.00"	12.750"	11.294"	0.687"	16.933	230

* Per ASTM D-1785 for PVC Pipe

** Water at 23°C (73° F) for Unthreaded Pipe

PIPE

FITTINGS

ACCESSORIES

OPEN INTAKE AREA FOR PVC WELL SCREENS SCH40

PIPE

FITTINGS

ACCESSORIES

Pipe Size	Rows	Standard Slot Sizes with .125" Spacing (Open area shown as Square Inches per Linear Foot of Pipe)													
		.006	.008	.010	.012	.014	.016	.020	.025	.030	.032	.040	.050	.064	.085
1.25"	3	1.23	1.62	2.64	3.13	3.61	4.08	4.92	6.00	6.93	7.30	8.64	10.2	-	-
1.50"	3	1.23	1.62	2.64	3.13	3.61	4.08	4.92	6.00	6.93	7.30	8.64	10.2	-	-
2.00"	4	1.64	2.16	3.96	4.70	5.42	6.12	7.38	9.00	10.40	10.94	12.96	15.30	18.14	21.80
2.50"	4	-	-	4.22	5.01	5.78	6.53	7.87	9.60	11.09	11.67	13.82	16.32	19.35	19.18
3.00"	4	-	-	5.28	6.26	7.22	8.16	9.84	12.00	13.86	14.59	17.28	20.40	24.19	29.07
4.00"	5	-	-	6.60	9.14	10.53	11.90	14.35	17.50	20.21	21.28	25.20	29.75	35.28	42.39
5.00"	5	-	-	6.12	7.26	8.37	9.45	14.76	18.00	20.79	21.89	25.92	30.60	36.28	43.61
6.00"	6	-	-	7.79	9.24	10.66	12.04	17.22	21.00	24.25	25.54	30.24	35.70	42.33	50.88
Number of cuts per row per foot		91	90	88	87	86	85	82	80	77	76	72	68	63	57

Pipe Size	Rows	Standard Slot Sizes with .250" Spacing (Open area shown as Square Inches per Linear Foot of Pipe)													
		.006	.008	.010	.012	.014	.016	.020	.025	.030	.032	.040	.050	.064	.085
0.50"	2	0.30	0.40	0.51	0.59	0.69	0.79	0.97	1.18	1.39	1.48	1.80	2.20	-	-
0.75"	2	0.47	0.63	0.78	0.92	1.07	1.22	1.50	1.83	2.14	2.29	2.79	3.40	-	-
1.00"	3	0.54	0.72	0.90	1.05	1.23	1.40	1.72	2.10	2.46	2.62	3.20	3.90	-	-
1.25"	3	-	-	1.38	1.62	1.89	2.16	2.64	3.23	3.78	4.03	4.92	6.00	-	-
1.50"	3	-	-	1.38	1.62	1.89	2.16	2.64	2.23	3.78	4.03	4.92	6.00	-	-
2.00"	4	0.86	1.14	2.07	2.43	2.84	3.24	3.96	4.84	5.67	6.05	7.38	9.00	10.94	13.39
2.50"	4	-	-	2.39	2.81	3.28	3.74	4.58	5.59	6.55	6.99	8.53	10.40	12.84	15.47
3.00"	4	-	-	2.76	3.24	3.78	4.32	5.28	6.45	7.56	8.06	9.84	12.00	14.59	17.85
4.00"	5	-	-	3.45	4.73	5.51	6.30	7.70	9.40	11.02	11.76	14.35	17.50	21.28	26.03
5.00"	5	-	-	3.62	4.25	4.96	5.67	7.92	9.68	11.34	12.10	14.76	18.00	21.89	26.78
6.00"	6	-	-	4.07	4.78	5.58	6.37	9.24	11.29	13.23	14.11	17.22	21.00	25.54	31.24
8.00"	7	-	-	4.03	4.73	5.51	6.30	11.55	14.11	16.54	17.64	21.53	26.25	31.92	35.05
10.00"	8	-	-	-	-	-	-	10.56	12.90	15.12	16.13	19.68	24.00	29.18	35.70
12.00"	10	-	-	-	-	-	-	13.20	16.12	18.90	20.16	24.60	30.00	36.48	44.63
Number of cuts per row per foot		46	46	46	45	45	45	44	43	42	42	41	40	38	35

OPEN INTAKE AREA FOR PVC WELL SCREENS SCH80

Pipe Size	Rows	Standard Slot Sizes with .125" Spacing (Open area shown as Square Inches per Linear Foot of Pipe)						
		.010	.012	.014	.016	.020	.025	.030
2.00"	4	3.08	3.65	4.21	4.76	5.74	7.00	8.09
2.50"	4	3.87	4.59	5.30	5.98	7.22	8.80	10.16
Number of cuts per row per foot								
		88	87	86	85	82	80	77

Pipe Size	Rows	Standard Slot Sizes with .250" Spacing (Open area shown as Square Inches per Linear Foot of Pipe)											
		.010	.012	.014	.016	.020	.025	.030	.032	.040	.050	.064	.085
0.50"	2	0.39	0.46	0.54	0.61	0.75	0.91	1.07	1.14	1.39	1.70	—	—
0.75"	2	0.69	0.81	0.95	1.08	1.32	1.61	1.89	2.02	2.46	3.00	—	—
1.00"	3	0.69	0.81	0.95	1.08	1.32	1.61	1.89	2.02	2.46	3.00	—	—
1.25"	3	1.00	1.18	1.37	1.57	1.91	2.34	2.74	2.92	3.57	4.35	—	—
1.50"	3	1.10	1.30	1.51	1.73	2.11	2.58	3.02	3.23	3.94	4.80	—	—
2.00"	4	1.61	1.89	2.21	2.52	3.08	3.76	4.41	4.70	5.74	7.00	8.51	10.41
02.50"	4	2.02	2.38	2.77	3.17	3.87	4.73	5.54	5.91	7.22	8.80	10.70	13.09
3.00"	4	2.48	2.92	3.40	3.89	4.75	5.81	6.80	7.26	8.86	10.80	13.13	16.07
4.00"	5	2.24	2.63	3.07	3.51	5.94	7.26	8.51	9.07	11.07	13.50	16.42	20.08
5.00"	5	—	—	—	3.78	4.62	5.64	6.61	7.06	8.61	10.50	12.77	15.62
6.00"	6	—	—	—	3.35	4.09	5.00	5.86	6.25	7.63	9.30	11.31	13.83
8.00"	7	—	—	—	—	—	—	5.51	5.88	7.18	8.75	10.64	13.02
10.00"	9	—	—	—	—	—	—	5.84	6.23	7.60	9.27	11.27	13.79
Number of cuts per row per foot													
		46	45	45	45	44	43	42	42	41	40	38	35

PIPE

FITTINGS

ACCESSORIES

SCH 40 FLUSH THREAD PVC

PIPE

FITTINGS

ACCESSORIES

SCH 40 PVC	Nominal Thread ASTM F-480	Box QTY
0.50"	8/8 TPI	20
0.75"	8/8 TPI	20
1.00"	8/8 TPI	20
1.25"	8/8 TPI	10
1.50"	8/8 TPI	10
2.00"	2/2 TPI	6
3.00"	2/2 TPI	5
4.00"	2/2 TPI	2
5.00"	2/2 TPI	2
6.00"	2/2 TPI	2
8.00"	2/2 TPI	1
10.00"	2/2 TPI	1

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	0.50"	2.5'	20	
Screen		2.5'	20	
Riser	&	5.0'	20	320
Screen		5.0'	20	Mixed
Riser	0.75"	10'	20	320
Screen		10'	20	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	1.00"	2.5'	20	
Screen		2.5'	20	
Riser	&	5.0'	20	320
Screen		5.0'	20	Mixed
Riser	1.50"	10'	20	320
Screen		10'	20	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	1.25"	2.5'	10	
Screen		2.5'	10	
Riser	&	5.0'	10	200
Screen		5.0'	10	Mixed
Riser	1.50"	10'	10	200
Screen		10'	10	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	2.00"	2.5'	6	
Screen		2.5'	6	
Riser	&	5.0'	6	300
Screen		5.0'	6	Mixed
Riser	3.00"	10'	6	300
Screen		10'	6	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	3.00"	2.5'	5	
Screen		2.5'	5	
Riser	&	5.0'	5	60
Screen		5.0'	5	Mixed
Riser	4.00"	10'	5	60
Screen		10'	5	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	4.00"	2.5'	2	
Screen		2.5'	2	
Riser	&	5.0'	2	80
Screen		5.0'	2	Mixed
Riser	5.00"	10'	2	80
Screen		10'	2	Mixed

SCH 40 FLUSH THREAD PVC

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	5.00"	2.5'	2	
Screen		2.5'	2	
Riser		5.0'	2	30
Screen		5.0'	2	Mixed
Riser		10'	2	30
Screen		10'	2	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	6.00"	2.5'	2	
Screen		2.5'	2	
Riser		5.0'	2	30
Screen		5.0'	2	Mixed
Riser		10'	2	30
Screen		10'	2	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	8.00"	2.5'	1	
Screen		2.5'	1	
Riser		5.0'	1	16
Screen		5.0'	1	Mixed
Riser		10'	1	16
Screen		10'	1	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	10.00"	2.5'	1	
Screen		2.5'	1	
Riser		5.0'	1	16
Screen		5.0'	1	Mixed
Riser		10'	1	16
Screen		10'	1	Mixed

- 1 Custom and 20' lengths available in most sizes.
- 2 Plain End Screens available

FIELD PACK SCREENS SCHEDULE 40

Outside Screen Dia.	Inside Screen Dia.	Length
3"	2"	5'
3"	2"	10'
4"	2"	5'
4"	2"	10'
5"	4"	5'
5"	4"	10'
6"	4"	5'
6"	4"	10'

- 1. Field Pack Screens are shipped assembled ready to be filled with filter media on site.
- 2. Field Pack Screens are flush thread male X male. Flush thread female X female adapters are available.

SCH 80 FLUSH THREAD PVC

SCH 80 PVC	Nominal Thread ASTM F-480	Box QTY
0.50"	8/8 TPI	20
0.75"	2/4 TPI	20
1.00"	2/4 TPI	20
1.25"	2/2 TPI	10
1.50"	2/2 TPI	10
2.00"	2/2 TPI	6
3.00"	2/2 TPI	5
4.00"	2/2 TPI	2
5.00"	2/2 TPI	2
6.00"	2/2 TPI	2
8.00"	2/2 TPI	1
10.00"	2/2 TPI	1

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	0.50"	2.5'	20	
Screen		2.5'	20	
Riser	&	5.0'	20	320
Screen		5.0'	20	Mixed
Riser	0.75"	10'	20	320
Screen		10'	20	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	1.00"	2.5'	20	
Screen		2.5'	20	
Riser		5.0'	20	320
Screen		5.0'	20	Mixed
Riser		10'	20	320
Screen		10'	20	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	1.25"	2.5'	10	
Screen		2.5'	10	
Riser	&	5.0'	10	200
Screen		5.0'	10	Mixed
Riser	1.50"	10'	10	200
Screen		10'	10	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	2.00"	2.5'	6	
Screen		2.5'	6	
Riser		5.0'	6	300
Screen		5.0'	6	Mixed
Riser		10'	6	300
Screen		10'	6	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	3.00"	2.5'	5	
Screen		2.5'	5	
Riser		5.0'	5	60
Screen		5.0'	5	Mixed
Riser		10'	5	60
Screen		10'	5	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	4.00"	2.5'	2	
Screen		2.5'	2	
Riser		5.0'	2	80
Screen		5.0'	2	Mixed
Riser		10'	2	80
Screen		10'	2	Mixed

PIPE

FITTINGS

ACCESSORIES

SCH 80 FLUSH THREAD PVC

PIPE

FITTINGS

ACCESSORIES

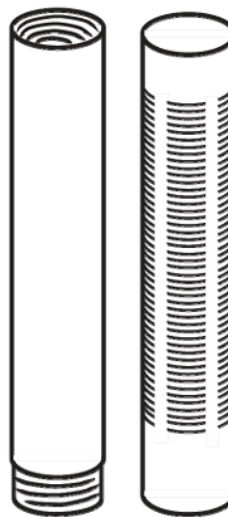
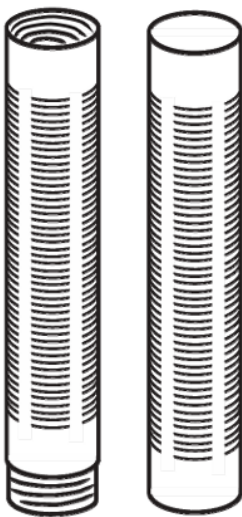
Type	Diameter	Length	Box Qty	Pallet Qty
Riser	5.00"	2.5'	2	
Screen		2.5'	2	
Riser		5.0'	2	30
Screen		5.0'	2	Mixed
Riser		10'	2	30
Screen		10'	2	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	6.00"	2.5'	2	
Screen		2.5'	2	
Riser		5.0'	2	30
Screen		5.0'	2	Mixed
Riser		10'	2	30
Screen		10'	2	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	8.00"	2.5'	1	
Screen		2.5'	1	
Riser		5.0'	1	16
Screen		5.0'	1	Mixed
Riser		10'	1	16
Screen		10'	1	Mixed

Type	Diameter	Length	Box Qty	Pallet Qty
Riser	10.00"	2.5'	1	
Screen		2.5'	1	
Riser		5.0'	1	16
Screen		5.0'	1	Mixed
Riser		10'	1	16
Screen		10'	1	Mixed

- 1 Custom and 20' lengths available in most sizes.
- 2 Plain End Screens available



UST SERIES

MONITORING / OBSERVATION WELLS

UST Series Monitoring Wells are recommended on any new tank installation to quickly detect hydrocarbon releases to ground water and/or vapors in the backfill material. Monitoring wells are used to detect leaks from piping, tanks, and spills and do not rely on meter calibration or inventory reconciliation to determine a problem. Hydrocarbon sensing devices are available to work in conjunction with our wells to provide continuous monitoring if desired.

Features:

- Precision machined from high quality Schedule 40 PVC pipe meeting all applicable standards.
- Available through 12" diameter and up to 20' in length meeting most major oil company specifications.
- Standard lengths are 13' with lower 10' slotted.
- All UST screens include a nylon riveted bottom plug and threaded adapters are available for most sizes.
- Standard .020" slots are perforated to provide maximum intake flow while maintaining strength. Other slot sizes are available on request.
- EMI screens are non-inked and shipped in durable poly bags to ensure cleanliness. They meet or exceed most insurance company, EPA, and PEI specifications.
- A complete line of manholes, adaptors, and caps are available to be shipped with your EMI UST screens.

STANDARD UST'S

Pipe Size	Length	Slot	Screen Length	Bottom Plug	Point Available
2"	13'	.020	10'	Yes	Yes
4"	13'	.020	10'	Yes	Yes
4"	15'	.020	12'	Yes	Yes
4"	16'	.020	13'	Yes	Yes
4"	20' *	.020	17'	Yes	Yes
6"	13'	.020	10'	Yes	
8"	13'	.020	10'	Yes	
10"	13'	.020	10'	Yes	
12"	13'	.020	10'	Yes	
12"	16'	0.20	13'	Yes	
*Two 10' Sections					
** Other configurations available					

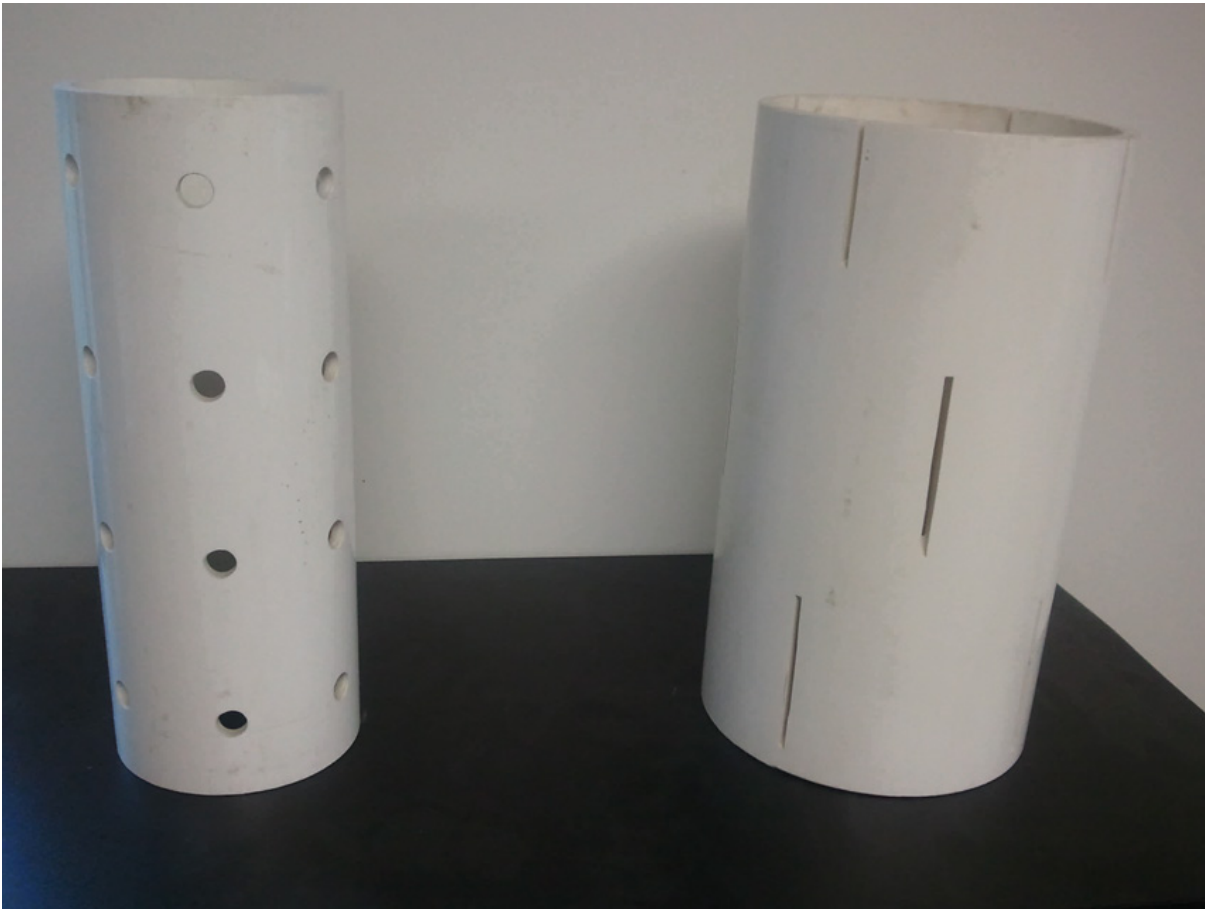
CUSTOM THREADING AND SLOTTING

EMI capabilities include:

- Custom threading of PVC, CPVC, HDPE, and Teflon
- Custom horizontal slotting of PVC, CPVC, HDPE, and Teflon
- Custom vertical slotting of PVC, CPVC and HDPE
- Custom perforating of PVC, CPVC and HDPE

Applications include monitoring, remediation, water well, irrigation, dewatering, vapor extraction, injection, highway underdrains, horizontal drilling and industrial filters.

Please call with specifications for quotations.



PIPE

FITTINGS

ACCESSORIES

CONTENTS

Page	Description
F-1	SCH 40 Fittings
F-2	SCH 40 Fittings
F-3	SCH 80 Fittings
F-4	SCH 80 Fittings

PIPE

FITTINGS

ACCESSORIES

PVC FITTINGS SCHEDULE 40

PIPE

FITTINGS

ACCESSORIES

Size	Fitting
.5"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
.75"	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
1"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
1.25"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
1.5"	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
2"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
3"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
4"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

PVC FITTINGS SCHEDULE 40

Size	Fitting
5"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Cap
	Slip Coupling

Size	Fitting
6"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Cap
	Slip Coupling

Size	Fitting
8"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Cap
	Slip Coupling

Size	Fitting
10"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Cap
	Slip Coupling

Size	Fitting
12"	Slip Plug
	Slip Cap
	Slip Coupling



PIPE

FITTINGS

ACCESSORIES

PVC FITTINGS SCHEDULE 80

PIPE

FITTINGS

ACCESSORIES

Size	Fitting
.5"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
.75"	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
1"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
1.25"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
1.5"	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
2"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
3"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

Size	Fitting
4"	Threaded Cap/Plug
	Threaded Point M/F
	Threaded Adapter
	Hoist Cap/Plug
	Slip Plug
	Slip Point
	Slip Cap
	Slip Coupling

PVC FITTINGS SCHEDULE 80

Size	Fitting
5"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Coupling

Size	Fitting
6"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Cap
	Slip Coupling

Size	Fitting
8"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Cap
	Slip Coupling

Size	Fitting
10"	Threaded Cap/Plug
	Threaded Adapter
	Hoist Cap/Plug
	Slip Cap
	Slip Coupling

Size	Fitting
12"	Slip Cap
	Slip Coupling



PIPE

FITTINGS

ACCESSORIES

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A-1	Decontamination Cleansers
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A-24	Filter Sand

PIPE

FITTINGS

ACCESSORIES

DECONTAMINATION CLEANSERS

ALCONOX

Powdered Precision Cleaner

Concentrated, anionic detergent for manual and ultrasonic cleaning. Free rinsing to give you reliable results without interfering residues. Ideal for cleaning contaminants from glassware, metals, plastic, ceramic, porcelain, rubber, and fiberglass. Excellent replacement for corrosive acids and hazardous solvents. USDA authorized. Dilute 1:100. pH 9.5



LIQUI-NOX

Critical Cleaning Liquid Detergent

Concentrated, anionic liquid detergent for manual and ultrasonic cleaning. Free rinsing to yield reliable results with no interfering residues. Extremely mild and completely soluble in hard and soft water. USDA authorized.

Dilute 1:100. pH 8.5

CITRANOX

Liquid Acid Cleaner and Detergent

Phosphate free, concentrated cleaner and metal brightener for high performance removal of metal oxides, scale, salts, and inorganic residues in manual and ultrasonic cleaning. Corrosion inhibited and free rinsing for reliable results and no interfering residues. Ideal for trace metal analysis. USDA authorized. Dilute 2:100. pH 2.5



PIPE

FITTINGS

ACCESSORIES

DISPOSABLE BAILERS

Size	Weight
1.6" X 36"	Unweighted *
1.6" X 36"	Weighted *
1.6" X 36"	Double Weighted *
1.6" X 36"	Sink Fast
.75" X 36"	Unweighted *
.75" X 36"	Weighted *
.50" X 36"	Unweighted *
.50" X 36"	Weighted *
* Includes Slow Emptying Device	

Size	Weight
3.5" X 36"	Unweighted

AQUA BAILERS

Aqua Bailers' disposable polyethylene bailers are made with the highest regard to quality in the marketplace. The large open-top design allows nearly an inch of space for easy tie-on. The thick, rigid construction with 100% pure virgin polyethylene guarantees a sturdy bailer with no warping or collapsing.

SINK FAST BAILERS

SIMPLY the fastest-sinking bailer on the market. Combining higher density PVC with our durable, field-tested weight design, SinkFast Bailers are sure to save you time and money in the field.

MINI BAILERS

Smaller wells mean smaller bailers and Aqua Bailers has what you need. In 1/2" or 3/4" outside diameters; polyethylene, AquaClear PVC, or FEP bailers are available in 3-foot lengths and a variety of weights. You can be assured to have no problem lowering these bailers down your well.

VOC TIPS

The Aqua Bailers VOC Tips, also known as Slow-Emptying Devices, are constructed of poly or FEP and sized to fit any bailer you use. These tips reduce water flow from the bailer, minimizing agitation and allowing a more accurate measurement of VOCs.



BIGGIE BAILER

Aqua Bailers' Biggie Bailer is the only 3-foot bailer that holds over 5 liters of water, making purging 4" wells faster and easier. Available in original polyethylene or AquaClear PVC and designed tough, the disposable Biggie Bailer can withstand rugged use and the large pour top is a cinch to tie on as well as empty quickly.

BAILER CORD

Type	Size
Solid Braid Nylon Rope	.10" X 500'
Solid Braid Nylon Rope	.125" X 600'

GROUNDWATER PURGING PUMPS

Whale Purge Pumps provide an easy-to-use, high-quality, economical solution for purging, sampling, and well development to a depth of 27 m (90 ft). The pump's 36 mm (1 7/16") diameter is ideal for use in 2" or larger monitoring wells.

- Used and trusted within the groundwater industry for more than 20 years.
- Recommended by drillers, hydrologists, and field technicians.
- High quality at a competitive price.
- Practical for dedicated use and disposal.
- Supplied for heavy gauge cable to reduce voltage drop (Super Purger and Mega Purger).
- Hermetically sealed electric connectors (Super Purger and Mega Purger).
- Completely pre-assembled and packaged with leads and alligator clips.
- Attach 13 mm (1/2") or 11 mm (3/8") tubing and lower into well.
- Connect leads to 12V d.c. power source and pump is energized.

WHALE PURGING PUMPS

	Whale Super Purger	Whale Mega Purger
Dimensions: (Length/Dia)	258 mm (10.2") X 36 mm (1 7/16")	387 mm (15.2") X 36 mm (1 7/16")
Maximum Current Draw:	10 amps	10 amps
Maximum Lift/Head:	10 m (60 ft)	27 m (90ft)
Length / Thickness of Cable:	21 m (70ft) 1.3 mm CSA	29 m (95ft) 1.3 mm CSA
Maximum Flow Rate per Minute:	10.5 ltrs (2.78 US gals)	13.3 ltrs (3.5 US gals)
Power Requirements:	12 V DC	
Outlet Diameter:	11 mm (3/8") and 13mm (1/2") adapter supplied	
Operating Temperature:	Maximum 140° F (66° C)	
Materials of Casing:	ABS / Polycarbonate stainless steel	
Material of Pump Impeller:	Nitrile	
Material of Seal:	Nitrile	



CLEAR PVC TUBE

Length	Width
200'	3/8" X 1/2"

PIPE

FITTINGS

ACCESSORIES

STEEL SHELBY TUBES

This sampler is designed to take undisturbed samples from cohesive type soils and clays. The thin steel tube containing the sample may be removed from the sampler head and used as a container to transport the sample to the laboratory thus avoiding any damage to the sample or costly delays in operation. In practice, several replacement tubes are carried by the crew to minimize disturbance, preserve moisture, and cut down on delays in the sampling procedure. The thin wall tube is made available in either steel, galvanized, or brass and in carrying lengths.

This sampler is also commonly called a “Shelby” or “Chicago” thin wall sampler. The procedure for taking samples is outlined under ASTM Standard Procedures, whereby the sampler is pressed into the undisturbed clay or silts by hydraulic force.

Size	Length of Steel Tube	Weight
2" O.D. X 1-7/8" I.D. 50.8mm X 47.7mm	30" 762 mm	7 lbs 3.1 kg
3" O.D. X 2-7/8" I.D. 76.2mm X 72.0 mm	30" 762mm	16 lbs 7.2 kg

SOIL SAMPLE LINERS

Brass and Stainless Steel liners for split and solid tube samplers.

Size	Material
2" X 6"	Stainless Steel
2" X 4"	Stainless Steel
2" X 6"	Brass
2" X 4"	Brass
Caps	Plastic





DIPPER-T WATER LEVEL METER

The dipper-T water level indicator is used for measuring the depth of water in wells, boreholes, and standpipes. The “Dipper-T” will signal water with a bright LED light and a solid buzzer.



H.OIL - OIL INTERFACE METER

The H.OIL interface meter includes yellow tensile steel tape manufactured to the ASME standard of accuracy jacketed in Kynar, Heron Carry Case, cleaning kit and field replaceable probe.



THE HERON WATER TAPE

The economical Water Tape includes a Kevlar reinforced white polyethylene tape, Heron Carry Bag and fully pressure rated easy clean Enviroprobe.

SEAMLESS FILTER SOCK

AQUA-SLEEVE®

A continuous seamless filter fabric, knitted specifically for ground water monitoring and remediation.

Aqua-Sleeve® filter fabric is used to prevent sediment and small fines from clogging the well point. It allows water to pass through the pipe at a high rate while minimizing silica sand or fine particle invasion which can cause well failure. It is used in both vertical and horizontal applications. The unequalled durability of Aqua-Sleeve® filter fabric make it highly resistant to strong and weak acids and alkalines, organic chemicals, and salt solutions.



Width	Length
1"	100'
2"	100'
4"	100'
6"	100'
8" - 12"	100'

SPECIFICATIONS

	Aqua-Sleeve®	Test Method
Fiber	Polyester	
Weight (Oz/yd ²) Applied	5.4	ASTM D-3776
Melt Point, F (C)	500 (260)	
Thickness — in (mm)	0.070 (1.9)	
Mullen Burst, p.s.q. (kpa)	115	ASTM D-3786
Air Permeability Ft ³ /ft ² /min (cm ³ /cm ² /sec)	350 (175)	ASTM D-737
Water Flow Rate (US) gal/ft ² /min-3"head	90	
Water Permittivity	1.5(s-1)	
AOS, US sieve, (UM)	60 (250)	ASTM D-4751
UV Degradation Strength Retained	70% after 300 hrs	ASTM D-4355

PIPE

FITTINGS

ACCESSORIES

SEAMLESS FILTER SOCK

THE CARRIFF DRAIN-SLEEVE®

The Carriff Drain-Sleeve® filter is the economical choice. It eliminates the need for gravel backfill, delivering significant savings in installation time, material, and labor. Because it can be cut to the required length, waste is kept to a minimum. Most importantly the Carriff Drain-Sleeve® filter is the dependable way to help keep your drain lines clogfree. The Carriff Drain-Sleeve® filter helps prevent expensive drainage system replacement or repairs down the road.



With the Carriff Drain-Sleeve® product or filter, you'll be able to install pipe with confidence, knowing that the hardy one-piece knitted polyester covering your pipe will keep out most sedimentation and increase water flow. Installation is easy — when your supplier delivers the pipe with the filter on it, you are ready to go! No special equipment is necessary and when compared to non-woven filter material, the Carriff Drain-Sleeve® filter is more resistant to ripping and tearing in the installation process.

Width
12"
15"
18"
24"

SPECIFICATIONS

	Carriff Drain-Sleeve®	Test Method
Fiber	Polyester	
Weight (Oz/yd ²) Applied	2.5-3.5	ASTM D-3776
Melt Point, F (C)	500 (260)	
Puncture Resistant	35	ASTM D-4833
Mullen Burst, p.s.q. (kpa)	100	ASTM D-3786
Denier per Filament	150	
Water Flow Rate (US) gal/ft ² /min-3"head	300	
Water Permittivity	1.5(s-1)	ASTM 4491
AOS, US sieve, (UM)	30 (600)	ASTM D-4751
UV Degradation Strength Retained	70% after 3 hrs	ASTM D-4355

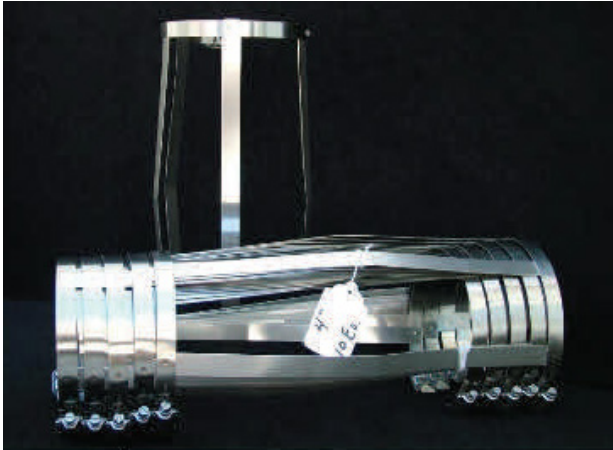
PIPE

FITTINGS

ACCESSORIES

STAINLESS STEEL CENTRALIZERS

- Centralizers are made of 100% Stainless Steel Construction.
- Manufactured in sizes 1” through 16”.
- High Strength Worm drive clamps have many advantages over standards T-bolt centralizers.
- Heavy Duty and Heavy Duty Long Centralizers available! Provides stronger straps for superior centralization on heavy casing and screen.
- Easy to install. Just use a nut driver, cordless drill motor (with a nut driver attachment) or standard screw driver.



Centralizer Pipe/ Casing Size	Diameter of Pipe/ Casing	Maximum Expansion
1.00"	1.315"	11.00"
1.25"	1.66"	11.00"
1.50"	1.90"	12.00"
2.00"	2.375"	12.00"
2.50"	2.875"	13.00"
3.00"	3.50"	13.00"
4.00"	4.50"	16.00"
4.50"	4.95"	16.50"
5.00"	5.563"	17.00"
6.00"	6.625"	18.00"
8.00"	8.625"	22.00"
10.00"	10.75"	24.00"
12.00"	12.75"	26.00"
14.00"	14.00"	28.00"
16.00"	16.00"	30.00"
17.40"	17.40"	31.00"

PIPE

FITTINGS

ACCESSORIES

INTERNAL PLASTIC PIPE CUTTERS

Make accurate, square cuts at floor level or in other blind locations. Easily present for depth of cut, they are installed in the pipe and make their cuts in seconds. Best used with individual PVC and ABS plastic pipe sizes ranging from 1 1/2" to 6" diameter.

Recommended user supplied power source:
1/2" Capacity, 350-450 rpm drill, rated 4.6 to 6 amps.



Pipe Size	Schedule	Shipping Weight	Cutting Depth Range?
1.5"	40 pipe and DWV	1 lb.	1.625" - 8.25"
2.0"	40 pipe and DWV	1 lb. 10 oz.	1.625" - 8.25"
2.0"	80 pipe and DWV	1 lb. 5 oz.	1.625" - 8.25"
3.0"	40 pipe and DWV	2.5 lbs.	1.625" - 8.25"
3.0"	80 pipe and DWV	2.5 lbs.	1.625" - 8.25"
4.0"	40 pipe and DWV	3 lbs.	1.625" - 11.625"
4.0"	80 pipe and DWV	3 lbs.	1.625" - 11.625"
6.0"	40 pipe and DWV	2 lbs. 11 oz.	1.625" - 11.625"

AUGER PLUGS

Poly HDPE	Wood
2.25"	2.25"
3.25"	3.25"
3.75"	3.75"
4.25"	4.25"
6.25"	6.25"
6.625"	6.625"
8.25"	8.25"
10.25"	10.25"



PIPE

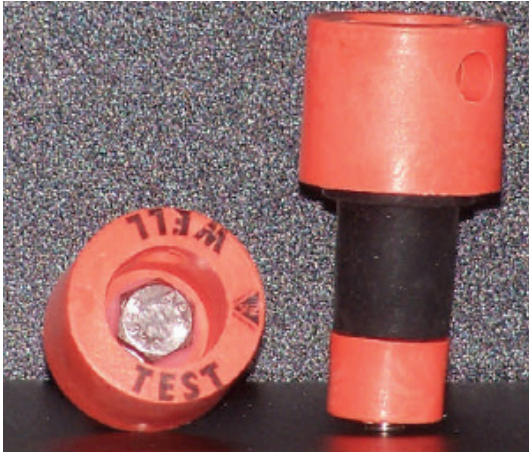
FITTINGS

ACCESSORIES

LOCKING CAPS AND PLUGS

KOBY TORQUER LOCKING WELL PLUGS

Koby Torquer Locking Well Plugs are designed and engineered for monitoring well security. Manufactured from an engineering grade polymer blend commonly used to replace steel gears in industry. They are resistant to most chemicals and are unaffected by freezing or high temperatures.



- No metal parts.
- Easily disassembled in the field for decon.
- High-Tech liquid tight seamless dual rubber gaskets.
- Accepts #1 or #3 type pad locks or lock-out tags.
- Strong instrument tethering tool with dual use.
- Easily convertible for pressure gauges, vacuum gauges and threaded line fittings.
- Smooth acting ergo grip easy on, easy off wing nut.
- Large easy to read well identification lettering.
- Bright safety colors.
- Flush OD design for easy well installation.

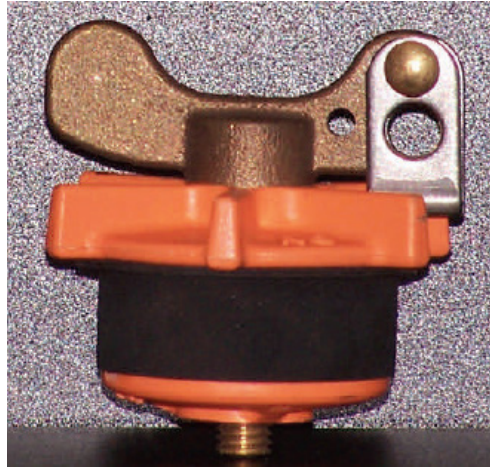
Outside Diameter	Schedule	Gasket Expansion	Installed Height
0.50"	40/80	0.75"	1.25"
0.75"	40	1.00"	1.75"
0.75"	80	1.00"	1.75"
1.00"	40/80	1.25"	1.75"
1.25"	40/80	1.50"	1.75"
1.50"	40/80	1.75"	1.75"
2.00"	40	2.25"	1.75"
2.00"	80	2.25"	1.75"
2.50"	40/80	2.75"	1.75"
3.00"	40/80	3.40"	2.00"
4.00"	40	4.25"	2.00"
4.00"	80	4.25"	2.25"
5.00"	40/80	5.25"	2.25"
6.00"	40/80	6.25"	2.25"

LOCKING CAPS AND PLUGS

MORRISON TEST WELL PLUG

The **Morrison Test Well Plug** is a lockable cover/plug for monitoring wells. As wing bolt is tightened, the seal compresses against the wall of the well casing to provide a water-tight tamper-proof fit.

Outside Diameter	Gasket Expansion	Installed Height
2"	2 1/2"	1 3/4"
4"	4 2/5"	1 3/4"
6"	7"	2"



CHERNE ORIGINAL GRIPPER®

- Ideal for sewer testing and long-term applications.
- Made with glass-reinforced ABS plastic.
- End-of-pipe design seals only at the end of a pipe.
- Equipped with a yellow chromate-coated locking latch.

Outside Diameter	Gasket Expansion	Installed Height
2"	2.17"	1 1/4"
3"	3.10"	1 1/4"
4"	4.06"	1 3/4"
6"	6.08"	1 3/4"
8"	8.03"	1 3/4"

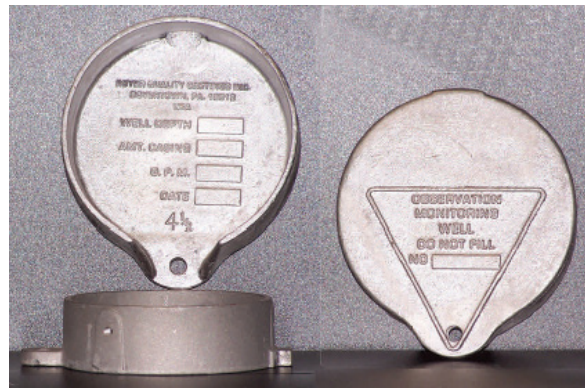


LOCKING CAPS AND PLUGS

ROYER'S ALUMINUM LOCKING CAPS

- Three Allen set screw to secure ring to casing.
- Observation Monitoring “Do Not Fill” Triangle on the cover.
- Permanent Well Log Pad records:
 - Well depth
 - Amount of casing
 - Gallons per minute
 - Date

Outside Diameter	Max Pipe O.D.	Max Cap O.D.	Installed Height
2"	2 3/8"	4 1/2"	1 3/4"
4"	4 1/2"	6 3/4"	1 3/4"
6"	6 5/8"	8 3/4"	1 3/4"
8"	8 3/4"	10 3/4"	1 3/4"
10"	10 3/4"	12 3/4"	1 3/4"
12"	12 3/4"	14 3/4"	1 3/4"



ENVIRO DESIGN GRIP-N LOCK CAPS

The **Enviro Design Grip-n Lock Caps** are watertight, tamperproof, locking, and hinged nylon monitoring caps. Concentric rings at the base insure watertight integrity. Warning label and well number increase well recognition. Heavy duty Nylon construction with high impact, heat resistant, and UV resistant chemical properties. This cap is completely inert and fits most standard locks.

Outside Diameter	Gasket Expansion	Installed Height
2"	NA	3"
4"	NA	3"



EXTRACTION-CAP



The **EXTRACTION-CAP** is a self-sealing vapor-sampling cap that takes the place of a standard monitoring well cap where vapor monitoring is required. It operates as a watertight locking expansion plug with the capability of having vapor or water extracted through the cap without removing the cap from the well. Quick connect attachment available.

Outside Diameter	Sample Type	Gasket Expansion	Installed Height
1"	Air	1 1/4"	3"
2"	Air/Water	2 1/4"	3 1/2"
4"	Air	4 1/4"	3 3/4"
4"	Air/Water	4 1/4"	3 3/4"

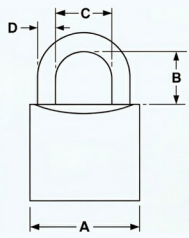
PIPE

FITTINGS

ACCESSORIES

LOCKS

Brand	Type—Key	Body	Shackle	A	B	C	D
Master	3KA-3247	Steel	Steel	1.82"	0.75"	0.60"	0.38"
Master	3KA-3120	Steel	Steel	1.78"	0.75"	0.60"	0.38"
Master	4KA-3753	Brass	Steel	1.78"	0.75"	0.60"	0.38"
Master	2KA-X2600	Brass	Steel	1.82"	0.91"	0.89"	0.31"
Master	7KA-P485	Steel	Steel	1.29"	0.60"	0.51"	0.20"
Dolphin		Brass	Steel	1.49"	0.74"	0.72"	0.22"
Olympus	Contact for Availability						



EMI MANHOLES

- Painted Cast Iron Lid and Ring
- Well ID Plate
- PCV or Welded Steel Skirt
- Stainless Steel Bolts & Rivets
- Buna-N Gasket
- H-20, HS-20, RR-F-621-0 load rated



Size	Skirt Material
7" X 10"	Steel
8" X 8"	Steel
8" X 12"	Steel
8" X 8"	PVC
8" X 12"	PVC

BUFFALO BOX

- Close grain ASTM A48-85 CL30 Grey Iron
- High grade Buna-N gaskets
- Brass Penta bolt
- H-20 Load Rated



Size	Skirt Material
3" X 6"	Cast Iron
4" X 10"	Cast Iron

MORRISON: MODEL 418xa

- Round manholes with bolted lid and gasket seal.
- Standard hex head stainless steel bolts.
- H-20 Load Rated



Size	Skirt Material
7" X 10"	Steel
8" X 8"	Steel
8" X 12"	Steel
12" X 12"	Steel
18" X 12"	Steel
18" X 18"	Steel

KOBY

- Nylon receiver and cover.
- HDPE Skirt.
- Buna-N O-ring.
- Stainless steel fasteners, slotted head.
- AASHTO M-306 Load Rated



Size	Skirt Material
3" X 6"	HDPE

ABOVE GROUND PROTECTIVE COVERS

Above Ground Protective Covers are locking steel covers with rust inhibiting primer. Aluminum and custom sizes available.



Size	Material
4" X 4" X 5'	1/8" Steel
6" X 6" X 5'	3/16" Steel
8" X 8" X 5'	3/16" Steel

PIPE

FITTINGS

ACCESSORIES

KWIK KLAMP I

- Equipped with serrated and hardened replaceable jaws.
- Excellent holding capability with load tests over 3500 lbs.
- Designed to hold pipes 1" through 2" PVC, stainless & galvanized.
- Safety pin to prevent accidental unclamping.
- All steel construction but light weight only 14 lbs.
- Easy to operate, over center locking of jaws when downward pressure is applied to lever.
- KWIK KLAMP allows workers to bring pipe joint up to an easy working level.
- Replacement jaws available.

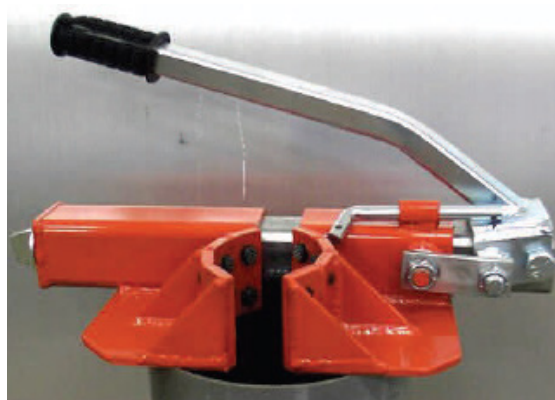


KWIK KLAMP II

The heavy duty KWIK KLAMP II is the driller's answer for holding larger pipe sizes: 2 1/2", 3", and 4". KWIK KLAMP II is an enlarged version of our popular KWIK KLAMP I for pipe sizes 1" through 2" with many of the same features. Replacement jaws available.

Jaws are equipped with 16 carbide tipped grippers.

Excellent holding capability with load tests done over 7,000 lbs.



C/S GRANULAR™

30-50 MESH GRANULAR BENTONITE



Certified to
NSF/ANSI/CAN 60

CETCO® CRUMBLES # 8

8-20 MESH GRANULAR BENTONITE

DESCRIPTION

C/S GRANULAR and CETCO CRUMBLES are granular bentonite products composed of polymer-free, dried bentonite in various mesh sizes. CETCO CRUMBLES are coarser in size than C/S GRANULAR. C/S GRANULAR and CETCO CRUMBLES are certified to NSF/ANSI/CAN Standard 60, Drinking Water Treatment Chemicals - Health Effects.



RECOMMENDED USE

May be used as casing seal, hole abandonment material, and for sealing earthen structures.



CHARACTERISTICS

- Less than 10% moisture
- Provide a positive seal
- Re-hydrates
- Will not shrink or crack

BULK DENSITY

65 lbs/ft³ (1.04 kg/L)

PACKAGING

~50 lb (~22.7 kg) bag, 48 per pallet.
All pallets are plastic-wrapped.

MIXING AND APPLICATION

Grouting Material	One bag CETCO CRUMBLES to 24 gallons (91 liters) water or 24 gallons water and 8 ounces (0.25 liters) ACCU-VIS
Dry Shallow Abandonment	Pour required amount directly down borehole; hydrate with freshwater
Earthen Structure Seal	Normal treatment is 3–5 pounds per ft ² (48–80 kg per m ²) depending on soil type

PIPE

FITTINGS

ACCESSORIES

CETCO® COARSE CHIPS PUREGOLD® MEDIUM CHIPS



Certified to
NSF/ANSI/CAN 60

HOLE ABANDONMENT MATERIAL

DESCRIPTION

CETCO COARSE CHIPS are natural sodium bentonite screened to 3/8 inch (0.95 cm) to 3/4 inch (1.90 cm) in size. PUREGOLD MEDIUM CHIPS are natural sodium bentonite screened to 1/4 inch (0.64 cm) to 3/8 inch (0.95 cm) in size. CETCO COARSE CHIPS and PUREGOLD MEDIUM CHIPS are certified to NSF/ANSI/CAN Standard 60, Drinking Water Treatment Chemicals - Health Effects.

RECOMMENDED USE

Sealing shallow boreholes and seismic shot holes; decommissioning wells; providing an interface between gravel pack and bentonite or cement grout.

CHARACTERISTICS

- Chemically stable. Results from TCLP Priority Pollutants analysis are below RCRA limits for hazardous constituents
- Prevent infiltration of surface contamination
- Provide a high-solids bentonite seal
- Provide a permanent, flexible seal

MIXING AND APPLICATION

Because chips may develop fines during transporting and handling, bagged material should be screened of fines before placement. Pour chips slowly downhole to prevent bridging or binding. In unsaturated conditions, water should be added at 2 ft intervals to ensure adequate hydration.

APPLICATION MATRIX

Hole Diameter (in)	2	4	6	8	10	12	14
Approximate Pounds of Chips per Linear Foot	1.5	6	14	24	37.5	54	73

Hole Diameter (cm)	5	10	15	20	25.5	30.5	35.5
Approximate Kilograms of Chips per Linear Meter	2.2	9	21	36	37.5	80	108



BULK DENSITY

CETCO COARSE CHIPS	67.30 lbs/ft ³ (1078.15 kg/m ³) (1817.10 lbs/yd ³)
PUREGOLD MEDIUM CHIPS	69.25 lbs/ft ³ (1109.28 kg/m ³) (1869.75 lbs/yd ³)

PACKAGING

~50 lb (~22.7 kg) bag, 48 per pallet. All pallets are plastic-wrapped.

PIPE

FITTINGS

ACCESSORIES

PUREGOLD® GROUT

HIGH-SOLIDS GROUT



Certified to
NSF/ANSI/CAN 60

DESCRIPTION

PUREGOLD GROUT is an easy mixing, organic-free, high-solids bentonite grout engineered to form a contaminant resistant seal without affecting groundwater chemistry. PUREGOLD GROUT is a technically superior replacement for traditional cement grouts. PUREGOLD GROUT is certified to NSF/ANSI/CAN Standard 60, Drinking Water Treatment Chemicals - Health Effects.

RECOMMENDED USE

PUREGOLD GROUT should be used for sealing the annular space in monitoring wells to control contaminate infiltration and preserve ambient groundwater quality.

CHARACTERISTICS

- Chemically stable. Results from TCLP Metals Analysis are below RCRA limits for hazardous constituents
- Contaminant free. All 116 priority pollutants tested for were below TCLP detection limits
- Generates no heat during mixing or curing and will not damage well casing
- Low permeability, laboratory test results range from 1×10^{-7} to 1×10^{-9} cm/sec
- pH range from 5-6 standard units
- Remains flexible, maintains putty-like consistency over time and will re-hydrate
- Thermal Conductivity 0.45 Btu/hr/ft/F (0.75 watts/meter K)

MIXING AND APPLICATION

PUREGOLD GROUT should be mixed with a paddle mixer or a mud rotary recirculation system and pumped with a positive displacement pump. It can be mixed in a slurry up to 30% solids. PUREGOLD GROUT remains placeable for up to two hours and sets in eight hours.

To achieve a 30% solids slurry, add one 50 lb bag of grout to 14 gallons (22.7 kg bag of grout to 53 liters) of freshwater. This ratio will yield approximately 2.2 ft³ (62.2 liters).



DENSITY

75.55 lbs/ft³ (1.21 kg/L) when mixed with water to a 30% solids grout.

PACKAGING

~50 lb (~22.7 kg) bag, 48 per pallet. All pallets are plastic-wrapped.

PIPE

FITTINGS

ACCESSORIES

CETCO® GRANULAR GROUT

HIGH-SOLIDS GRANULAR BENTONITE GROUT



Certified to
NSF/ANSI/CAN 60

DESCRIPTION

CETCO GRANULAR GROUT mixes into a smooth bentonite grout that has no lumps and pumps easily. CETCO GRANULAR GROUT is dustfree, offers reduced friction going down the tremie pipe, and has a firm set-up with little settling. CETCO GRANULAR GROUT is certified to NSF/ANSI/CAN Standard 60, Drinking Water Treatment Chemicals - Health Effects

RECOMMENDED USE

CETCO GRANULAR GROUT is designed for grouting waterwells and monitoring wells, decommissioning abandoned wells and boreholes, and sealing closed-loop geothermal heat pump systems. It forms a low-permeability, flexible seal.

CHARACTERISTICS

- Improved set-up time allows mixing flexibility and reduces settling
- Physically stable; will not flow through highly permeable soil
- Smooth consistency for improved pumping and handling

MIXING AND APPLICATION

WATERWELL – 20% SOLIDS

Use one 50 lb (22.7 kg) bag of CETCO GRANULAR GROUT to 24 gallons (91 liters) of freshwater to produce 3.5 ft³ (0.1 m³) of grout. Once mixed to proper consistency, grout should be pumped through a tremie pipe with a positive displacement pump from the bottom of the well up to the surface. Pumping should continue until grout at the surface reaches the initial mud weight of 9.4 lbs/gal (0.63 kg/m³).

GEOTHERMAL – 40% SOLIDS

Place freshwater in a paddle-mixing tank of a commercial grout mixer. Start the paddles and add one 50 lb (22.7 kg) bag of CETCO GRANULAR GROUT to the water. Mix for about 1 minute. Add silica sand at a steady rate (1–2 minutes), and continue mixing for about 2 minutes to obtain a consistent mixture. Pump with a positive displacement pump (piston pump recommended) through a 1 to 1 1/4 inch (2.54 cm to 3.18 cm) inside diameter (I.D.) tremie pipe at a rate of 5–15 gallons (19–57 liters) per minute. Yields 4.52 ft³ (0.13 m³).



IMPORTANT NOTES

An increase or decrease in water usage can affect final TC values. The use of a water meter or other measuring system is recommended. The grout mixture should be fully hydrated and homogenous before placing.

50 lbs (22.7 kg) CETCO GRANULAR GROUT + 24 gallons (90.85 liters) freshwater to produce 26.2 gallons (0.1 m³) of 20% solids grout @ 9.4 lbs/gal (0.63 kg/m³) with a Thermal Conductivity (TC) of 0.43 Btu/hr/ft/F (0.73 W/mK).

50 lbs (22.7 kg) CETCO GRANULAR GROUT + 100 lbs (45 kg) silica sand + 27 gallons (102 liters) freshwater to produce 34 gallons (0.14 m³) of 40% solids grout @ 11.03 lbs/gal (0.75 kg/m³) with a Thermal Conductivity (TC) of 0.72 Btu/hr/ft/F (1.22 W/mK).

TYPICAL PROPERTIES

Thermal Conductivity	0.43 Btu/hr/ft/F, no sand 0.72 Btu/hr/ft/F, 100 lbs sand 0.73 W/mK, no sand 1.22 W/mK, 45 kg sand
Permeability	<5.2 x 10 ⁻⁸ cm/s
Specific Gravity	2.62 g/cm ³
Max Particle Size	<300 µm

PACKAGING

~50 lb (~22.7 kg) bag, 48 per pallet. All pallets are plastic-wrapped.

PIPE

FITTINGS

ACCESSORIES



Certified to
NSF/ANSI/CAN 60

DESCRIPTION

SUPER GEL-X is an easy mixing, high viscosity 200 bbl yield freshwater drilling fluid produced from the highest grade Wyoming sodium bentonite. SUPER GEL-X is certified to NSF/ANSI/CAN Standard 60, Drinking Water Treatment Chemicals - Health Effects.

RECOMMENDED USE

May be used for all types of freshwater mud rotary drilling.

CHARACTERISTICS

- Cools and lubricates bit
- Helps prevent loss circulation
- Highly concentrated for maximum yield
- Mixes quickly and easily
- Reduces solids and increases lifting power
- Removes cuttings
- Stabilizes boreholes
- Helps prevent loss circulation

MIXING AND APPLICATION

Mixing ratios are based on 200 bbl yield material using freshwater. Level of water purity will affect bentonite performance. Prior to mixing, acidic and hard water should be treated with SODA ASH to a pH of 8.5–9.5. For best results, add SUPER GEL-X slowly through a jet/hopper mixer.

PACKAGING

~50 lb (~22.7 kg) bags, 48 per pallet, ~1 ton or ~2 ton supersacks, or bulk. All pallets are plastic-wrapped.

DRILLING FLUID AND SLURRY TRENCHING -

SUPER GEL-X mixing ratio in pounds (kg) per 100 gallons (378.54 L) of water

Condition	Lbs (kg) of SUPER GEL-X	% Solids
Normal Conditions	15–25 lbs (6.80–11.33 kg)	1.8–2.9%
Sand and Gravel	25–35 lbs (11.33–15.87 kg)	2.9–4.0%
Fluid Loss Control	35–40 lbs (15.87–21.32 kg)	4.0–4.6%

SLURRY PROPERTIES - 2.78% SOLIDS

Property	Typical Value	Specification/ Procedure
Viscosity FANN 600 rpm	35 cps	30 cps Min - ACC TP-2005
Viscosity FANN 6 rpm	14 cps	ACC TP-2055
Viscosity FANN 3 rpm	13 cps	ACC TP-2055
Yield - 42 gal bbl of 15 cps slurry/ton	217	200 Min - ACC TP-2001
Marsh Funnel, seconds/quart	41 seconds	ACC TP-1014
Apparent Viscosity (AV)	17	15 Min - ACC TP-2005
Plastic Viscosity (PV)	5	ACC TP-2005
Yield Point, lb/100 ft ²	21	ACC TP-2005
Filtrate, 30 minutes @ 100 psi, ml	25 ml	ACC TP-2003
Filter Cake, in	2/32	N/A
pH	9.0	ACC TP-1018

GENERAL PROPERTIES

Property	Typical Value	Specification/ Procedure
Moisture %	7.5%	ACC TP-2006
Free Swell	29 ml	ASTM D-5890
Plate Water Absorption	810.05%	ASTM E946-92
Specific Gravity	2.5 g/cc	Generally Recognized
Bulk Density Non-compacted	53 lbs/ft ³	ACC TP-1005
Bulk Density Compacted	72 lbs/ft ³	ACC TP-1005
Grit % (<75 micron)	2.8%	4.0% Max - ACC TP-2004
Particle Sizing	74% Min passing #200 mesh sieve	ACC TP-1015

PIPE

FITTINGS

ACCESSORIES



Certified to
NSF/ANSI/CAN 60

DESCRIPTION

PUREGOLD GEL is a minimum 80–90 bbl yield, organic-free, untreated, high quality bentonite drilling fluid designed for the groundwater monitoring industry. It complies with API 13A Section 10, Specifications for Drilling Fluid Materials. PUREGOLD GEL is certified to NSF/ANSI/CAN Standard 60, Drinking Water Treatment Chemicals - Health Effects.

RECOMMENDED USE

PUREGOLD GEL is recommended for environmental rotary drilling where ambient groundwater quality and soil chemistry must be maintained. PUREGOLD GEL can be used in fresh or saltwater mud systems. It can also be used as a seal for earthen structures, slurry trenching, tunnel boring, and foundation drilling.

CHARACTERISTICS

- Chemically stable. Results from TCLP Metals Analysis are below RCRA limits for hazardous constituents
- Contaminant free. All 116 priority pollutants tested were below TCLP detection limits
- Lubricates and cools drilling bit
- Mixes quickly to achieve required viscosity
- Efficiently removes cuttings from the borehole
- Seals borehole wall to reduce fluid loss and impedes inter-aquifer groundwater movement
- Stabilizes and supports borehole wall

PACKAGING

~50 lb (~22.7 kg) bag, 48 per pallet, ~1 ton or ~2 ton supersacks, or bulk. All pallets are plastic-wrapped.

DRILLING FLUID AND SLURRY TRENCHING -

PUREGOLD GEL MIXING RATIO IN POUNDS (KG) PER 100 GALLONS (380 LITERS) OF WATER

Condition	Lbs (kg) of PUREGOLD GEL	% Solids
Normal Conditions	30–50 lbs (13.5–22.5 kg)	3.5–5.7%
Sand and Gravel	50–70 lbs (22.5–31.5 kg)	5.7–7.8%
Fluid Loss Control	70–80 lbs (31.5–36 kg)	7.8–8.8%

SLURRY PROPERTIES - 6.04% SOLIDS

Property	Typical Value	Specification/ Procedure
Viscosity FANN 600 rpm	27 cps	ACC TP-2005
Viscosity FANN 6 rpm	1 cps	ACC TP-2005
Viscosity FANN 3 rpm	0.5 cps	ACC TP-2005
Yield - 42 gal bbl of 15 cps slurry/ton	80 to 90 bbl/tn	ACC TP-2001
Marsh Funnel, seconds/quart	39 seconds	ACC TP-1014
Apparent Viscosity (AV)	13 to 14 cps	ACC TP-2005
Plastic Viscosity (PV)	10.5	ACC TP-2005
Yield Point, lb/100 ft ²	4.5 lbs/100 ft ²	ACC TP-2005
Filtrate, 30 minutes @ 100 psi, ml	13.7 ml	ACC TP-2003
Filter Cake, in	2/32	N/A
pH	9.03	ACC TP-1018

API 13A SECTION 10 TESTING AT 6.67% SOLIDS

Property	Typical Value	Specification/Procedure
Dispersed Plastic Viscosity	10.5	10 Min/ACC-TP-2005
Dispersed Filtrate	10.2	12.5 cc Max/ACC-TP-2003
YP/PV Ratio	0.43	1.5 Max/ACC-TP-2005

GENERAL PROPERTIES

Property	Typical Value	Specification/Procedure
Moisture %	9.3%	ACC TP-2006
Free Swell	28 ml	ASTM D-5890
Plate Water Absorption	776.55%	ASTM E946-92
Specific Gravity	2.5 g/cc	Generally Recognized
Bulk Density Non-compacted	53 lbs/ft ³	ACC TP-1005
Bulk Density Compacted	72 lbs/ft ³	ACC TP-1005
Grit % (<75 micron)	3.0%	4.0% Max - ACC TP-2004
Particle Sizing	74% Min passing #200 mesh sieve	ACC TP-1015

PIPE

FITTINGS

ACCESSORIES

FILTER SAND AND BENTONITE

PDSO BENTONITE PEL PLUG

- Compressed, 100% chemically unaltered high swelling western sodium Bentonite pellet.
- Available in three sizes: 1/4", 3/8", and 1/2"

Type	Pail Size
Pellets—1/4"	50 (lbs)
Pellets—3/8"	50 (lbs)
Pellets—1/2"	50 (lbs)

PEL-PLUG TR30

- A clean, virtually odorless and easy to handle Bentonite pellet which combines the high quality yield of western Bentonite with a biodegradable non-sticking coating.
- The coating, developed by PDSCo, allows the pellets to be poured through standing water without sticking together, eliminating voids and bridging.
- Pel-Plug TR30 has the same ability to absorb water and maintain the 8-12 times expansion pattern that has been typical of the regular Pel-Plug Bentonite pellet.
- Pellets should be allowed to hydrate for at least 2 to 3 hours depending on water quality.

CHEMICAL ANALYSIS %	
Chemical	Percentage
SiO ₂	66.6%
Al ₂ O ₃	17.9%
Fe ₂ O ₃	3.67%
K ₂ O	0.31%
CaO	0.57%
MgO	1.80%
Na ₂ O	2.50%
Bound Water	6.51%
Moisture at 2200° F	0.14%

Type	Pail Size
Pellets—1/4" Coated	50 (lbs)
Pellets—3/8" Coated	50 (lbs)
Pellets—1/2" Coated	50 (lbs)

PIPE

FITTINGS

ACCESSORIES

FILTER SAND

FILTERSIL®

- Well Gravel Sands are produced from round and sub-round monocrystalline industrial quartz.
- Chemically inert and free of organic contaminants FILTERSIL® will not alter the chemistry of water producing wells, nor distort the analytical results of effluents drawn from monitoring wells.
- These durable and dense sands are sized to uniformity coefficients of 1.5 or lower for more uniform down hole placement.

ASTM Mean Mesh Size	Bag Size
8-16	50 (lbs)
12-20	50 (lbs)
16-30	50 (lbs)
20-40	50 (lbs)
30-50	50 (lbs)

CHEMICAL ANALYSIS %	
Chemical	Percentage
SiO ₂	99.22%
Al ₂ O ₃	0.22%
Fe ₂ O ₃	0.20%
K ₂ O	0.16%
CaO	0.02%
MgO	0.01%
Na ₂ O	0.01%
TiO ₂	0.03%
Loss on Ignition	0.13%

PIPE

FITTINGS

ACCESSORIES

A graphic element consisting of several horizontal green bars of varying lengths, with a vertical blue bar in the center that overlaps the green bars.

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