PLAINTIFF'S EXHIBIT
JMMC-260

Fibercast

LINE PIPE and WELL TUBING

made from

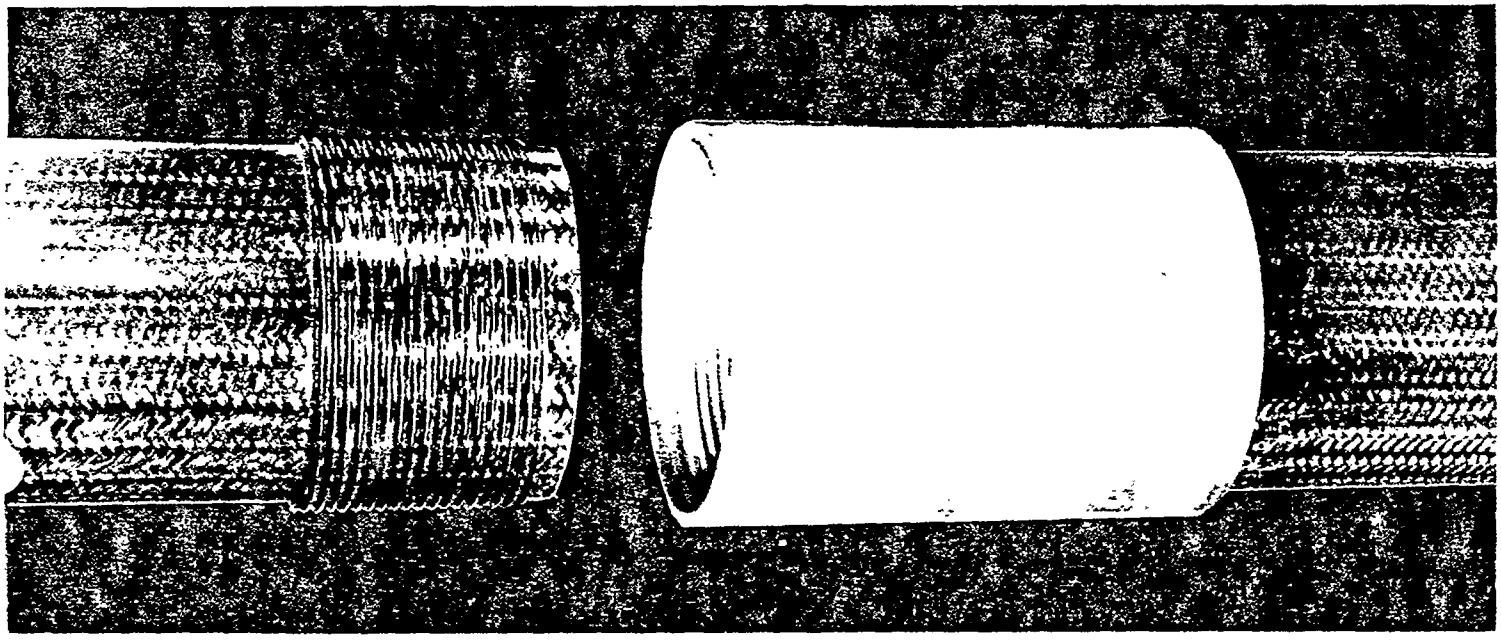
THERMOSETTING REINFORCED EPOXY RESINS

—not to be compared with Extruded Plastic Pipe made with Thermoplastic Materials!

THE FIBERCAST CORPORATION

A SUBSIDIARY OF THE YOUNGSTOWN SHEET AND TUBE COMPANY

Makers of Superior Corrosion-Resistant Pipe



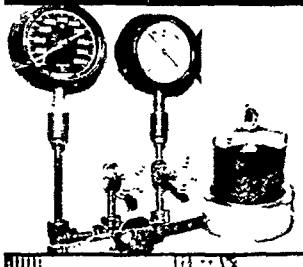
Fibercast advantages

No other non-metallic pipe has all the desired advantages found in Fibercast. Its unique and exclusive construction, using high quality materials, is processed under rigid controls. This combination results in a high strength, high temperature, corrosion-resistant pipe not equaled in its application.

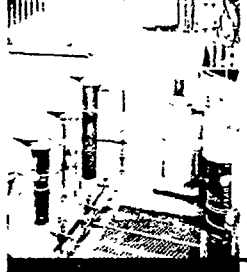
The more salient features are:

- **Operating temperatures —65° to 260° F**... *widest range of any high-strength, non-metallic pipe.*
- **Not subject to cold flow or permanent set but will follow ditch contour** . . . *can be used where other non-metallic or coated metal pipes are not suitable.*
- **Linear coefficient of thermal expansion 7.06 x 10^{-6} to 8.25 x 10^{-6} in./in./°F** . . . *essentially the same as steel.*
- **No electrolytic action. A non-conductor**.... *Accepted by the electrical industry as a superior insulator.*
- **Thermal insulator. Resists Paraffining and Scaling** . . . *proven by six years field experience.*
- **Light Weight and High Strength** . . . *less than ¼ the weight of steel.*

LABORATORY TESTED



FIBERCAST Pipe is non-porous. This edgewise porosity test subjects a 2½" length to more than 500# water pressure for thousands of hours, with no weeping through the edges.



Pipe quality control and certification is accomplished in this test cell. Stress and strain measurements of pipe under internal and external pressures are carefully taken by skilled Lab technicians.



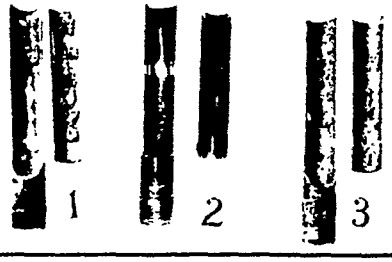
FIBERCAST Quality Control is precision checked. Pipe as produced, or field and Lab tested under corrosive environments is compared by stress-strain Charts to known values.

FIELD PROVEN



Left: Fibercast tubing in salt water supply well suspending an 800# pump 6 months with no loss in strength.

Right: Plastic coated steel nipple, same string, failed after same length of service.



Left: Cement lined steel; 14 months; total loss.

Center: Fibercast; 2 years; no deterioration.

Right: Plastic coated steel; 9 months; failure.



No. 1: 9 months' handling, 75% Phosphoric Acid @ 260° F.

No. 2: 9 months' handling, 29% Phosphoric Acid in 40% Slurry @ 200° F.

No. 3: 9 months' handling, 29% Phosphoric Acid @ 150° F.

The **FIBERCAST** *Corporation*
P. O. Box 727, Sand Springs (Tulsa), Oklahoma Phone Circle 5-1301

MANUFACTURERS OF FIBERCAST LINE PIPE AND WELL TUBING
GLASS FIBER REINFORCED EPOXY RESIN

Price Schedule 6 — October 1, 1956

(Supersedes all previous price schedules)

LINE PIPE — MAXIMUM OPERATING TEMPERATURE — 180° F

QUANTITIES — PRICE PER FOOT

Pipe Size OD	Grade	Working Pressure @ 80° F	Wt. Per Foot	20 to 799 Feet			800 to 2499 Feet			2500 Feet or More		
				Plain End	600# Flanged	T & C	Plain End	600# Flanged	T & C	Plain End	600# Flanged	T & C
2.375	H	500	.63	1.67	*2.32	1.90	1.60	*2.25	1.80	1.45	*2.10	1.65
2.375	L	800	.90	1.93	*2.58	2.15	1.85	*2.50	2.05	1.68	*2.33	1.85
2.375	N	1000	1.20	2.27	—	2.50	2.17	—	2.35	1.97	—	2.15
2.875	H	450	.80	1.85	*2.50	2.05	1.77	*2.42	2.00	1.61	*2.26	1.80
2.875	N	1000	1.50	2.61	—	2.90	2.50	—	2.75	2.27	—	2.50
3.500	H	350	1.07	2.15	*2.80	2.40	2.06	*2.71	2.30	1.87	*2.52	2.10
3.500	L	600	1.76	2.39	*3.04	2.75	2.29	*2.94	2.65	2.08	*2.73	2.40
3.500	N	1000	2.05	3.02	—	3.45	2.90	—	3.30	2.63	—	3.00

LINE PIPE — MAXIMUM OPERATING TEMPERATURE — 220° F

QUANTITIES — PRICE PER FOOT

Pipe Size OD	Grade	Working Pressure @ 220° F	Wt. Per Foot	20 to 799 Feet			800 to 2499 Feet			2500 Feet or More		
				Plain End	600# Flanged	T & C	Plain End	600# Flanged	T & C	Plain End	600# Flanged	T & C
2.375	E	300	.63	1.67	*2.32	1.90	1.60	*2.25	1.80	1.45	*2.10	1.65
2.375	G	450	.90	1.93	*2.58	2.15	1.87	*2.50	2.05	1.68	*2.33	1.85
2.375	J	700	1.20	2.27	—	2.50	2.20	—	2.35	1.97	—	2.15
2.875	E	250	.80	1.85	*2.50	2.05	1.81	*2.42	2.00	1.61	*2.26	1.80
2.875	J	600	1.50	2.61	*3.26	2.90	2.53	*3.18	2.75	2.27	*2.92	2.50
3.500	E	200	1.07	2.15	*2.80	2.40	2.06	*2.71	2.30	1.87	*2.52	2.10
3.500	G	300	1.76	2.39	*3.04	2.75	2.29	*2.94	2.65	2.08	*2.73	2.40
3.500	J	500	2.05	3.02	*3.67	3.45	2.90	*3.55	3.30	2.63	*3.28	3.00

*With 600# flanges each end of joint.

Prices for pipe with 150# flanges, or special lengths are available on request.

WELL TUBING

QUANTITIES — PRICE PER FOOT
(T & C)

Size OD	Grade	Maximum Working Collapse Pressure P. S. I. @ 120° F	Weight Per Foot Pounds	19-799 FEET	800-2499 FEET	2,500 FEET OR MORE
2.375	TPE	150	.90	2.15	2.05	1.85
2.375	TE	700	1.20	2.50	2.35	2.15
2.875	TPE	75	.80	2.05	2.00	1.80
2.875	TE	500	1.50	2.90	2.75	2.50
3.500	TPE	100	1.76	2.75	2.65	2.40
3.500	TE	350	2.05	3.45	3.30	3.00
2.375	TE	TUBING NIPPLE — 3 FEET LONG — AST MALE THREADS EACH END — $ 8.70 EACH.				
2.875	TE	TUBING NIPPLE — 3 FEET LONG — AST MALE THREADS EACH END — $10.80 EACH.				
3.500	TE	TUBING NIPPLE — 3 FEET LONG — AST MALE THREADS EACH END — $11.50 EACH.				

NOTE: TOTAL QUANTITIES OF ALL FIBERCAST PIPE AND TUBING ON EACH ORDER WILL GOVERN PRICE BRACKET.

F. O. B., our plant, SAND SPRINGS, OKLAHOMA.

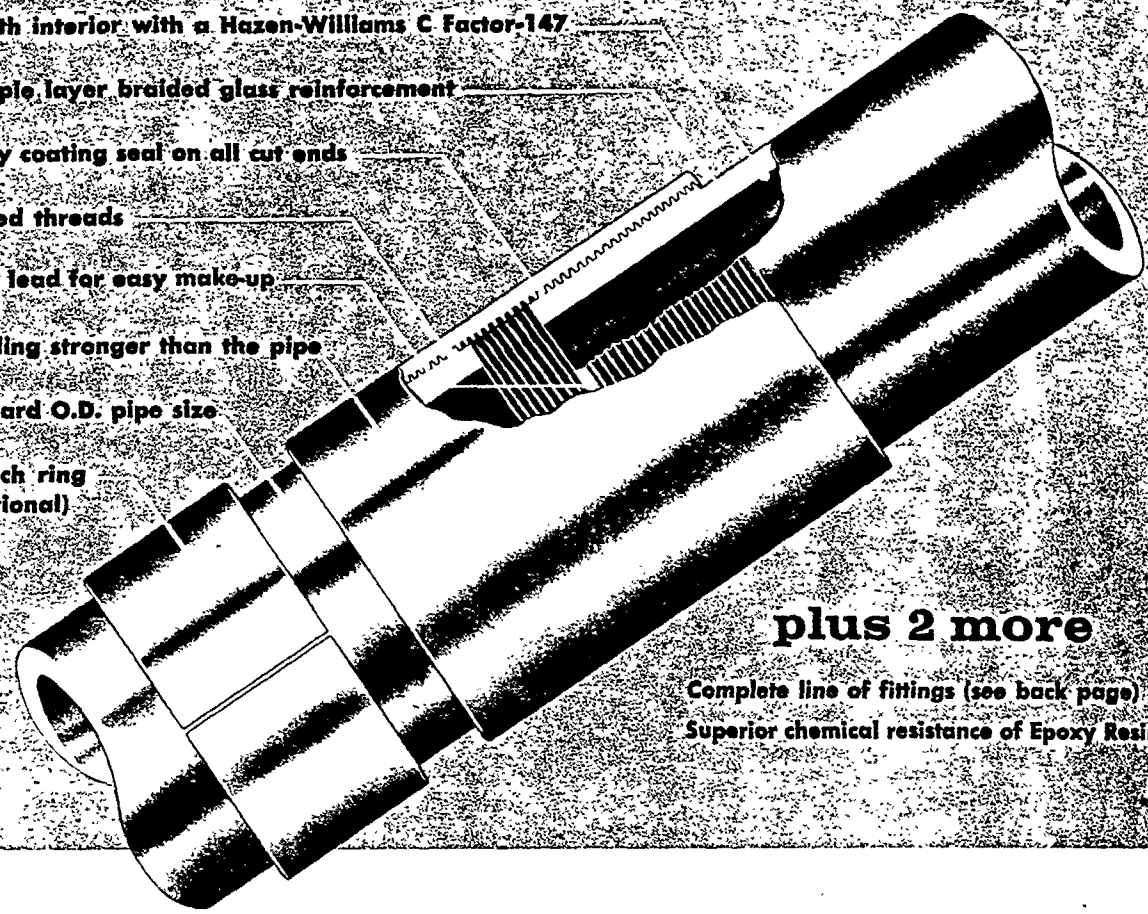
TERMS OF PAYMENT: Net Cash within thirty (30) days from date of invoice or less two (2) per cent cash discount on the mill value of the material of invoices dated from first to fifteenth of month, if paid by 25th of month: of invoices dated from sixteenth to thirty-first, if paid by 10th of following month.

10-56—15M

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reasons for Fibercast superiority!

1. Smooth interior with a Hazen-Williams C Factor-147
2. Multiple layer braided glass reinforcement
3. Epoxy coating seal on all cut ends
4. Molded threads
5. Entry lead for easy make-up
6. Coupling stronger than the pipe
7. Standard O.D. pipe size
8. Wrench ring (optional)



plus 2 more

Complete line of fittings (see back page)

Superior chemical resistance of Epoxy Resins

1. There is no separate liner of inferior materials. Fibercast has a minimum of .050" integrally cast Epoxy interior which is highly chemical resistant.

2. The glass braid reinforcement provides high strength retention against burst and axial tension stresses. *The reinforcement is cast integrally with all the resin.*

3. A protective Epoxy coating is applied to all cut ends to assure maximum corrosion resistance.

4. The 8 thread system results in the maximum thread shear in thermo-setting resin. This fully upset thread does not cut away and destroy the reinforcement. The thread is a flat top American 60° stub thread resulting in sturdy threads not easily chipped. The 3/8 inch to 1 foot taper system prevents cross-*threading*, resulting in faster assembly.

5. Alignment for easy make-up is assured by a flat lead on the thread end of the pipe and coupling.

6. The sturdy coupling body develops 100% joint strength.

7. All Fibercast pipe is constructed to standard steel pipe outside diameters. The wall construction is designed for varied applications, providing a selection of grades.

8. The optional reinforcing ring on the pipe near the threaded section is used when regular strap or chain wrenches are used in assembling the pipe.

The Only Commercially Tested, High Pressure, High Temperature Corrosion-Resistant Non-Metallic Pipe on the Market!

FIBERCAST LINE PIPE

180° F. LINE PIPE						220° F. LINE PIPE					
Pipe OD	Grade	Wall Thickness	Wt. Per Foot T&C Pounds	Operating Pressure @ 80° F. to 180° F.		Pipe OD	Grade	Wall Thickness	Wt. Per Foot T&C Pounds	Operating Pressure @ 80° F. to 220° F.	
2⅜"	H-500	.14	.63	500	250	2⅜"	E-300	.14	.63	300	300
2⅜"	L-800	.19	.90	800	400	2⅜"	G-450	.19	.90	450	450
2⅜"	N-1000	.24	1.15	1000	500	2⅜"	J-700	.24	1.15	700	700
2⅞"	H-450	.14	.80	450	225	2⅞"	E-250	.14	.80	250	250
2⅞"	N-1000	.24	1.45	1000	500	2⅞"	J-600	.24	1.45	600	600
3½"	H-350	.15	1.07	350	175	3½"	E-200	.15	1.07	200	200
3½"	L-600	.19	1.76	600	300	3½"	G-300	.19	1.76	300	300
3½"	N-1000	.24	2.00	1000	500	3½"	J-500	.24	2.00	500	500

LINE PIPE IS AVAILABLE T&C (THREADED AND COUPLED) FLANGED AND PLAIN END.

FIBERCAST WELL TUBING

Pipe OD	Grade	Wall Thickness	Wt. Per Foot T&C Pounds	Operating Collapse Pressure at/120° F.	Internal* Operating Pressure at/120° F.	Maximum Operating Axial Load in Pounds	Maximum Setting Depth—Dry in Feet △
2⅜"	TPE-150	.19	.90	150	675	2800	3100 feet
2⅜"	TE-700	.28	1.20	700	1050	4500	3750 feet
2⅞"	TPE-80	.16	.80	80	375	2000	2500 feet
2⅞"	TE-500	.28	1.50	500	900	5000	3350 feet
3½"	TPE-100	.19	1.76	100	450	4600	2600 feet
3½"	TE-350	.28	2.05	350	750	7500	3650 feet

ALL TUBING IS T&C (THREADED AND COUPLED). *NOT RECOMMENDED AT THESE PRESSURES WHEN INSTALLED AS LINE PIPE. TUBING IS ESPECIALLY FOR DOWNHOLE STRESSES AND TEMPERATURES. △ COMBINATION STRINGS CAN BE SET AT GREATER DEPTH.

A number of connecting systems are available for Fibercast pipe, including fittings.
This line of fittings represents the most complete line ever offered by a non-metallic pipe manufacturer.



All Thread Nipple



Slip Elbow



600# Flange



Pipe Coupling



Slip Tee



Service Saddle

FIBERCAST

The **FIBERCAST** *Corporation*
P. O. Box 727, Sand Springs (Tulsa), Oklahoma Phone Circle 5-1301

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NOTES