McWane Ductile

IRON STRONG

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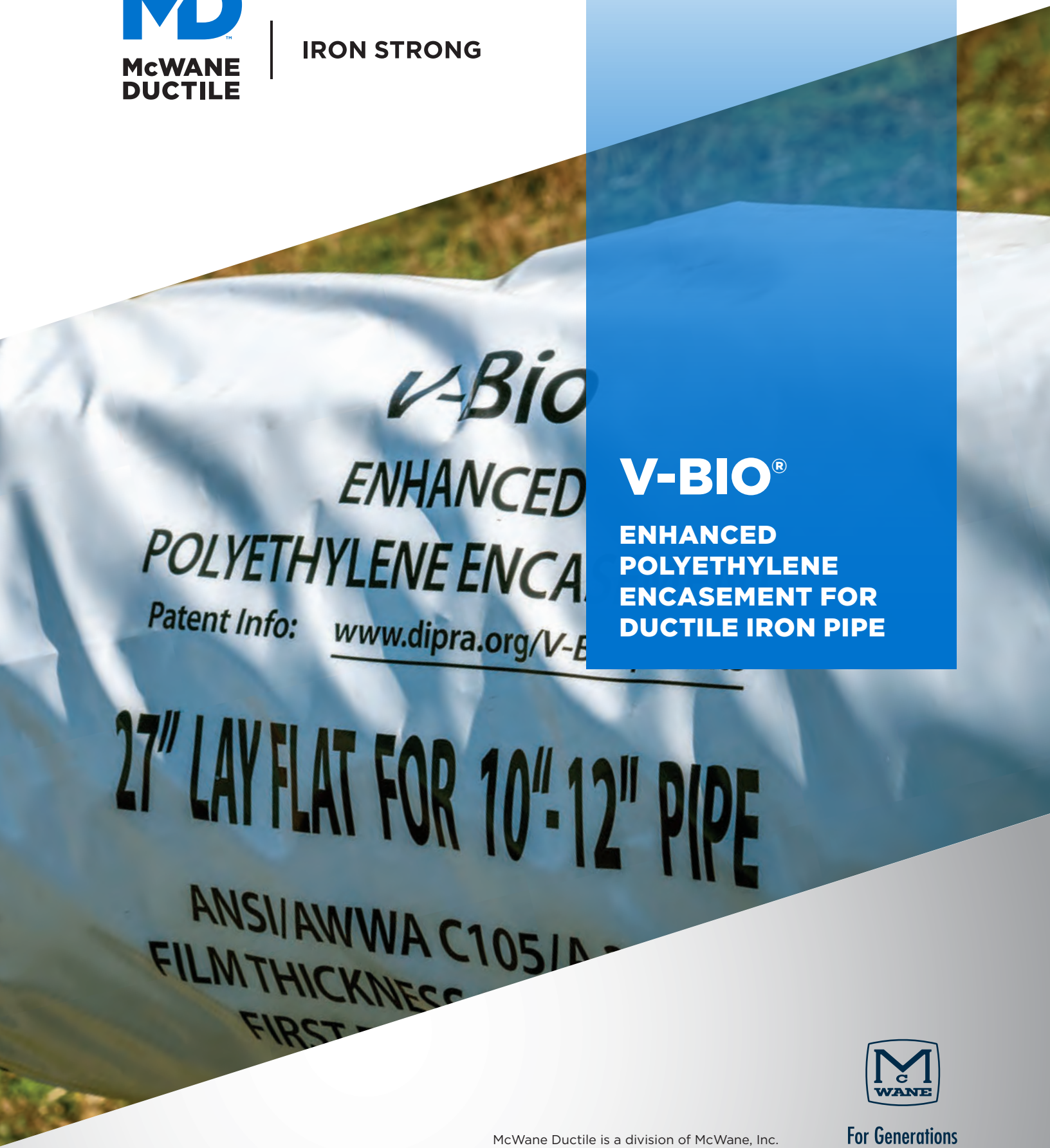

V-BIO®

ENHANCED POLYETHYLENE ENCASEMENT FOR DUCTILE IRON PIPE

McWane Ductile is a division of McWane, Inc.

For Generations

V-BIO® ENHANCED POLYETHYLENE ENCASEMENT FROM MCWANE DUCTILE

V-Bio® Enhanced Polyethylene Encasement can be provided by McWane Ductile to protect Ductile iron pipe when it is specified for installation in corrosive environments. Polyethylene encasement has been used to protect Ductile iron pipe in corrosive soils since the 1950s with great success.

McWane Ductile is taking pipe protection to higher levels by recommending the innovative V-Bio, an enhanced polyethylene encasement that provides significantly advanced corrosion protection for Ductile iron pipe. Specifically, V-Bio addresses the potential influence of anaerobic bacteria and inhibits the formation of corrosion cells under the wrap.

V-BIO® ENCASEMENT FOR CORROSION PROTECTION

Polyethylene encasement is the only corrosion protection for Ductile iron pipe covered by an AWWA standard (ANSI/AWWA C105/A21.5). Today's V-Bio Polyethylene Encasement is far superior to the original 8 mil single-layer tubing used. Infused within the inner layer of V-Bio is an active corrosion inhibitor to provide protection against galvanic corrosion as well as an antimicrobial agent to address microbiologically influenced corrosion under the wrap. V-Bio is a three-layer coextruded film, which results in a stronger, more puncture- and tear-resistant encasement material. Standard production for V-Bio includes a white external layer to allow for greater visibility of damage to the wrap during installation and for identification of the wrap to prevent accidental damage after installation. V-Bio's external layer is available in other colors upon request.

Polyethylene encasement is our most popular, economical and successful method of protecting pipe from corrosion. Since its first water system installation in 1958, polyethylene has been used to protect hundreds of millions of feet of cast and Ductile iron pipe in aggressive environments.

KEY FACTS ABOUT V-BIO®

- Builds upon a proven method of corrosion control — polyethylene encasement — that has been protecting iron pipe from aggressive soils since it was first installed in 1958.
- Consists of three layers of co-extruded linear low-density polyethylene film, minimum 8 mil thickness, that are fused into one, which results in physical strengths up to 40 percent greater than the old polyethylene film.
- Features an inside surface that is infused with a proprietary anti-microbial to mitigate microbiologically influenced corrosion (MIC) and a volatile corrosion inhibitor to control galvanic corrosion.
- Addresses two concerns raised over the years — the potential influence of anaerobic bacteria through MIC and the concern about the possibility of corrosion occurring under intact polywrap.
- Protects against corrosion without involving consumption or degradation of either the anti-microbial or the corrosion inhibitor. The film's enhanced properties will not wear out!
- Meets all requirements of the American National Standards Institute and the American Water Works Association (ANSI/AWWA C105/A21.5) standards for polyethylene encasement.
- Is the next step in a proven, successful method of corrosion control.
- When considering total project cost, V-Bio will provide a very economical means of corrosion protection for your pipeline.

For more details about V-Bio® Enhanced Polyethylene Encasement, Ductile iron pipe or McWane Ductile, visit **www.mcwaneductile.com.**

DETAILS & DIMENSIONS

PIPE SIZE (IN.)	LAY FLAT SIZE	LENGTH PER ROLL[1]	TAPE REQ.[2] PER JOINT (FT.)	WEIGHT PER ROLL[1]
4	20	500	5	72
6	20	500	6	72
8	20	500	8	72
10	27	380	9	73.9
12	27	380	10	73.9
14	34	300	11	73.44
16	34	300	12	73.44
18	41	260	13	73.8
20	41	260	13	73.8
24	54	210	17	81.6
30	67	150	21	72.4
36	81	132	25	75.27

[1] Weights and lengths subject to change. [2] Based on one turn at each end, six 4" long strips to secure loose wrap plus approximately 5% extra.

STANDARDS APPLICABLE TO DUCTILE IRON PIPE AND FITTINGS

THICKNESS DESIGN OF DUCTILE IRON PIPE	ANSI/AWWA C150/A21.50
DUCTILE IRON PIPE FOR WATER AND OTHER LIQUIDS	ANSI/AWWA C151/A21.51, FEDERAL WWP421D, GRADE C
DUCTILE IRON PIPE FOR GRAVITY FLOW SERVICE	ANSI/ASTM A746
DUCTILE IRON FITTINGS FOR WATER AND OTHER LIQUIDS (3 in. through 36 in.)	ANSI/AWWA C110/A21.10
DUCTILE IRON COMPACT FITTINGS (3 in. through 24 in.)	ANSI/AWWA C153/A21.53
FLANGED FITTINGS	ANSI/AWWA C110/A21.10, ANSI B16.1
DUCTILE IRON PIPE WITH THREADED FLANGES	ANSI/AWWA C115/21.15
COATINGS AND LININGS	
Asphaltic	ANSI/AWWA C151/A21.51, ANSI/AWWA C110/A21.10, ANSI/AWWA C153/A21.53
Cement Lining	ANSI/AWWA C104/A21.4
Various Epoxy Linings and Coatings	MANUFACTURER'S STANDARD
Exterior Polyethylene Encasement	ANSI/AWWA C105/A21.5
JOINTS – PIPE AND FITTINGS	
Push-On and Mechanical Rubber-Gasket Joints	ANSI/AWWA C111/A21.11, FEDERAL WWP421D
Flanged	ANSI/AWWA C115/A21.15, ANSI B16.1
Grooved and Shouldered	ANSI/AWWA C606
PIPE THREADS	ANSI B2.1
INSTALLATION	ANSI/AWWA C600

V-Bio®

Enhanced Polyethylene Encasement

ABOUT DIPRA

From its inception more than 100 years ago, the Ductile Iron Pipe Research Association (DIPRA) has provided accurate, reliable and essential engineering information about cast iron — and now Ductile iron — pipe to a wide variety of utilities and consulting engineers. For details about the benefits of Ductile iron pipe or DIPRA, visit **www.dipra.org**.

POCKET ENGINEER
Available for **iOS + Android**
or online at **pe.mcwane.com**

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