INFO BRIEF 19-7.0 (2/12/19)

What is the Effect of the Change in Design Factor in the Plastic Pipe Rule?

The Pipeline Safety **Plastic Pipe Rule**, 49 CFR Part 192 – Docket No. PHMSA-2014-0098: Amdt. No. 192-124, RIN 2137-AE93 was published to the Federal Register on 11/20/18 with an effective date of 1/22/19. The effective date was delayed by PHMSA due to the temporary shutdown of the US Federal Government. As of the date of this info brief, the new effective date has not been issued.

This Plastic Rule can be accessed using the following link: https://www.govinfo.gov/content/pkg/FR-2018-11-20/pdf/2018-24925.pdf. In this Rule, new and replaced PE pipe may now operate with a design factor of 0.40 (previously 0.32), though it is limited to a minimum wall thickness of 0.090 inches and a maximum design pressure of 125psig.

§192.121 Design of plastic pipe. … (2) For PE pipe produced after January 22, 2019, a DF of 0.40 may be used in the design formula, provided: (i) The design pressure does not exceed 125 psig; (ii) The material designation code is PE2708 or PE4710; …

The table shown below provides a quick comparison of the effect this increase in design pressure has on maximum operating pressure.

$$P = 2 * \left(\frac{S}{SDR-1} \right) * DF$$

49 CFR Part 192.121

	MDPE (PE2708)		HDPE (PE4710)	
	Pressure Rating (psi) @73F		Pressure Rating (psi) @73F	
SDR	0.32 DF	0.40 DF	0.32 DF	0.40 DF
9			125	125*
9.3	96	123	123	125*
10	88	111	114	125*
11	80	100	102	125*
11.5	76	95	98	122
13.5	64	80	82	102

* maximum design pressure = 125psig

Additional questions regarding this topic should be directed to DuraLine Engineering/Technical Support at 940-727-3278.