Summary of Substantive Changes
between the 2011 and the 2013 editions of
ASTM F2306, "12 to 60 in. [300 to 1500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications"

Presented to the IAPMO Standards Review Committee on June 10, 2013

General: The changes to this standard might have an impact on currently listed products. The substantive changes are:

- The deflection limit was changed from 10% deflection to an equation based value dependent on the pipe diameter (see Section 6.4).

Section 6.4, Pipe Flattening: Changed the method of determining the deflection limit as follows.
There shall be no evidence of splitting, cracking, breaking, separation of seams, separation of the outer and inner wall, or combinations thereof, when tested in accordance with 7.6. Additionally, at or below the ~~10% deflection limit,~~ deflection limit defined in Eq 1, the specimen shall be considered as failing this test when the load does not increase continuously with increasing deflection. ~~The maximum load point shall not be at less than 10% deflection and inspection for splitting, cracking, or delamination shall continue to the 40% deflection limit.~~
Buckling Deflection Limit:

$$\Delta b = \frac{6.15\% \cdot 0.5 \cdot D}{D_f \cdot 0.6 \cdot h_p}$$

where:
Δb = minimum buckling deflection limit (%)
D = mean diameter (centroid) of pipe (in [mm])
D_f = shape factor (dimensionless fixed value of 4.27 for parallel plate test)
h_p = corrugation height (in [mm])
NOTE 5—~~Design~~Field deflection limits are typically taken at 5% (see Annex A1). Eq 1~~The 10% load limit evaluation is intended as a quality assurance test to insure the manufactured profile has an appropriate minimum material distribution throughout the profile.~~is based on the results from NCHRP Report 631 and is defined as being derived from the standard parallel plate test equation. The constant value 6.15% (0.0615) in Eq 1 is the factored combined strain limit for HDPE pipe per AASHTO LRFD Section 12. The constant value 0.6 in this equation is an estimated centroidal distance for typical profiles produced per this specification.