

IPPI Design-Flow® HDPE Pipe Dual Marking Designations:

The recent updates and additions to ASTM D3350 caused the EHMW-HDPE resins designated as PE3408 in 2006, to become PE3608 in 2007. The HDPE material did not change, but the ASTM D3350 cell classification that described the material did change, necessitating the upgrade to PE3608. Those same changes encompassed the addition of PE4710 High Performance Polyethylene (HPPE) into the arsenal of pipe grade resins. A PE4710 HPPE piping system can result in a 15% savings when compared to current costs of PE3408 piping systems. By virtue of its higher pressure rating enabling the use of the next lower DR, wall thickness becomes less, ID increases and the weight per foot of pipe is reduced. These characteristics are a needed advantage especially when competing against other piping materials in the marketplace.

For the benefit of pipe users, engineers, inspectors and project managers, all IPPI pipe and fittings produced for projects will be temporarily "dual marked", to verify conformance to the material specifications existing prior to December 2006, and to validate conformance with updated polyethylene material specifications issued after January 2007.

ASTM F714 recognizes the replacement of PE3408 with PE3608. It also recognizes the addition of PE4710 HPPE, useable at higher pressures, based on the better design factor published in the Plastic Pipe Institute publication TR-3, revised in 2006 and issued by the PPI Hydrostatic Stress Board in 2007.

AWWA C906 is in the process of revision to incorporate the change from PE3408 to PE3608, as well as to add the high performance polyethylene resin PE4710.

Both PE4710 and PE3608 meet and/or exceed the requirements of PE3408.

Until ASTM, AWWA and other codes and standards are updated to recognize the addition of HPPE (PE4710), and the change from PE3408 to PE3608, IPPI will dual mark its pipe and fittings as follows:

Standard Performance Polyethylene (SPPE) : PE3408/PE3608
High Performance Polyethylene (HPPE) : PE3408/PE3608/PE4710

The Working Pressure Rating (psi) of polyethylene materials are listed below:

Designation:	<u>DR7</u>	<u>DR9</u>	<u>DR11</u>	<u>DR13.5</u>	<u>DR17</u>	<u>DR21</u>	<u>DR26</u>	<u>DR32.5</u>
PE3408	267	200	160	128	100	80	64	51
PE3608	267	200	160	128	100	80	64	51
PE4710	336	250	200	160	126	100	80	63

Related Documents: Also see IPPI Design-Flow® HDPE Pipe Print Line Data Sheet