



Hydraulic Hose and Fitting Compatibility

There are a number of SAE Standards that cover the performance requirements of hydraulic hose assemblies. Included are the J517, J516, and J343 Standards.

Hydraulic hoses that are claimed to meet SAE J517 standards (e.g. SAE 100R1 and SAE 100R2) obviously need to be designed for, and certified to, the criteria defined by SAE. That criteria includes stringent dimensional tolerances (inside, outside, and braid diameters), compound and reinforcement types, length changes, cold flexibility, and ozone and heat resistance. There are also burst pressure and impulse requirements in J517. Those requirements are for coupled assemblies, and SAE states that “the general and dimensional standards for hydraulic hose fittings are obtained in SAE J526.”

Hydraulic hose fittings that meet SAE J516 Standards are similarly well defined by SAE as to material type, dimensions, finish, etc. The SAE manual also specifically states that J516 fittings are intended to be used “in conjunction with hydraulic hoses specified in SAE J517, and utilized in hydraulic systems on mobile and stationary equipment.”

SAE J343 is the standard that establishes “uniform methods of the testing and performance evaluation of the SAE 100R series of hydraulic hose and hose assemblies.” Coupled assemblies are expected to meet or exceed SAE performance if the SAE criteria described above are met.

The integrity of any hose assembly depends upon the components, fittings, and hose meeting the rigorous SAE requirements, and then the components being assembled by skilled personnel. This is true regardless of where the components are manufactured. Testing has been completed on Kurt Manufacturing fittings coupled to Semperit hydraulic hose, and the tested assemblies have passed SAE performance criteria.

While there has been an integration of hose and fitting manufacturers, independent hose and fitting manufacturers can and will continue to produce top class products that will provide excellent assemblies just as they have done for decades.

