

## FORD MOTOR COMPANY (FORD) RESPONSE TO PE24-027

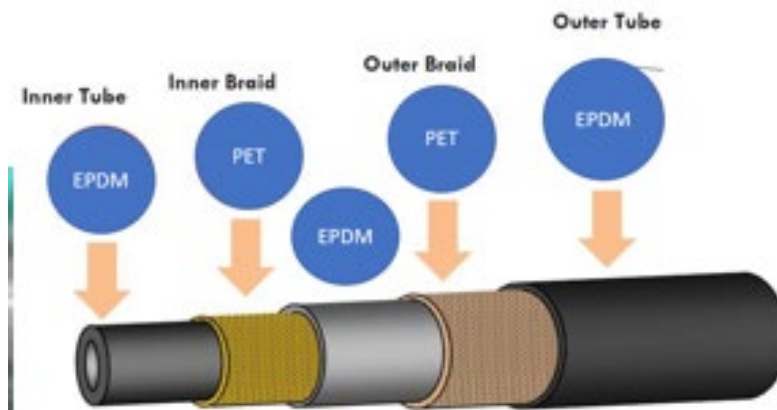
### Request 6

Describe in detail the rear brake hose construction, composition, number and type of layers, material specifications, and all other relevant information related to the rear hose design and specifications on the subject vehicles and peer vehicles.

Also, describe any differences between the above-described characteristics implemented in the rear brake hose design compared to the front brake hose (for both the original front brake hose as well as the Recall 20V-469 remedy front brake hose).

### Answer

The Edge and MKX front and rear brake hose construction consists of 5 layers: 2 layers of reinforcement yarn braiding to help reduce hose expansion, sandwiched between 3 layers of EPDM rubber. The inner and outer braid material on the Edge and MKX front and rear hoses was changed from Polyvinyl Alcohol (PVA) to Polyethylene Terephthalate (PET) in August 2017 for vehicles built at Ford's Oakville Assembly Complex (OAC) to be common with other components coming from the same supplier. The supplier changed from PVA to PET to address front hose warranty claims on certain Ford vehicles in other countries. Hoses built with PET braid material were used for the remedy in 20V-469 (20S42) based on improved front jounce hose fatigue life on the test rig by a factor of 4-5 times over the original hose.



The Edge/MKX rear brake hose routing and function is different than the front brake hose. The Edge/MKX rear hose bend radius is larger, hose stretch is lower at the limits of travel, and the rear hose is not subjected to steering articulations. Rear hoses are subjected to less bending, less stretch, and less torsional (steering related) inputs that can all contribute to fatigue. Hose design differences are as follows:

### Edge/MKX Front Hose Bend Radius and Stretch

Design Position = 22 mm

Full Jounce = 14.56 mm with elongation of 3.83 mm.

Full Rebound = 14.82 mm with elongation of 5.97mm.

### Edge/MKX Rear Hose Bend Radius and Stretch

Design Position = 38.8 mm. 76% larger radius.

Full Jounce = 20.30 mm with elongation of -1.11mm. 40% larger radius.

Full Rebound = 17.14 mm with elongation of 1.14 mm. 16% larger radius.