**Type approval framework fitness check:**

None of the Type Approval documents listed in the framework fitness check directly effect HFO 1234YF systems.

1. 2006/40/EC only refers to the control of F-Gas based refrigerant. As HFO 134YF is not classified as an ‘F-Gas’, it is not controlled by this Directive.
2. The only other Directives which have any impact are the (EC) No. 715/2007 Euro 5 and Euro 6 light duty motor vehicles and (EC) No 595/2009 Euro VI heavy duty vehicle emissions.

In these cases, there is an argument that the exhaust emission levels will increase if the air-conditioning system is not operating efficiently. This would apply to any MAC system, irrespective of the refrigerant installed.

The proposal should therefore be that a check should be included on PTI testing to establish:

* Minimum temperature is achieved in a specific time (i.e. 5 degrees centigrade in the footwell within 3 minutes with the engine at 1,500 rpm….)
* Refrigerant identifier to ensure that:
* the correct refrigerant is installed (type approval compliance)
* the correct refrigerant is installed to minimise GWP exposure from alien refrigerants (butane, propane etc.)

If an amendment to PTI regulations is a realistic consideration, it is a good time to propose this to the Commission, as they are currently reviewing the PTI Roadworthiness package to amend the 2010/48/EU Directive.