

BULLETIN

MAKE / MODEL:

All with A/C system

YEAR:

1996-

ENGINE CODE:

All

SUBJECT / SYMPTOM / TROUBLE CODE:

A/C system refrigerant, look out for "false" refrigerants, check with refrigerant analyser

SOLUTION:

False refrigerants/gases, which are not approved for use in cars or by the compressor manufacturers. It makes a big difference whether the refrigerant is meant for a refrigerator or for a car, which is exposed to different temperatures and where lubrication of the compressor depends on the refrigerant ability to transport the oil in the system.

We recommend that you exclusively use refrigerant recommended by the manufacturer and that this refrigerant is purchased from a reliable supplier.

If this is neglected, you risk filling a flammable or explosive gas in the air conditioning system of the car. If the car later is in a road accident where the front of the car is destroyed, it is very dangerous if the gas in the condenser explodes and catches fire.

This is usually detected by using a refrigerant analyser in case of a compressor failure.

Examples of refrigerants which are not approved:

- R12 - Freon
- R22
- R40 - Methyl chloride (extremely damaging to the compressor, may cause internal corrosion)
- R152A
- R1143A
- R142B
- R143A
- R290 - Propane

The motive for using false refrigerants is mainly that the price on refrigerant R134a has increased significantly in recent years due to taxes.

The price has particularly increased on refrigerants with fluoride.

Especially in Norway, you see that illegal refrigerants are used because the price is significantly lower.

The disadvantages by using "false" refrigerants can be:

- They are dangerous for the environment
- They are flammable / explosive
- They lack features, which ensure that the compressor oil is transported along with the refrigerant
- They have bad heat exchange
- If the garage gets this refrigerant in its service station, you must dispose of all the refrigerant in the service station, as it may be mixed with the "false" refrigerant



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SOLUTION CONTINUED:

Several big garages or refrigerant repairers have invested in an analyser to check the refrigerant.

This test takes a minute and may reveal foreign gases in the system. In the picture (2) you can see that 25.5% of the gas is unknown in this analysis. The system must always have 100% pure refrigerant, as in print No. 2.



- Tested R134a -		Refrigerant Identifier	
R134=	73.8	- Tested R134a -	
R12=	0.0	R134=	100.0
R22=	0.0	R12=	0.0
HC=	0.0	R22=	0.0
UNK=	25.5	HC=	0.0
AIR=	0.0	UNK=	0.0
		AIR=	0.0
	(Date)		(Date)
	(Technician)		(Technician)
	YF0010982:000046		

The device takes a small sample (approx. 2 grams refrigerant) from the low-pressure pipe connector.

