

ASSOCIAZIONE DEI TECNICI ITALIANI DEL FREDDO - ATF

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ATF



12th EUROPEAN CONFERENCE

MILANO 8th-9th JUNE 2007

United Nations UNEP – Centro Studi Galileo – Associazione Tecnici del Freddo



- Activity in Europe and in the World
 - CFC –Montreal Protocol 1988
 - HCFC – Montreal Protocol 1988
 - HFC – Kyoto Protocol 1998
 - NATURAL REFRIGERANTS
 - HYDROCARBONS (isobutane, propane)
 - AMMONIA
 - CARBON DIOXIDE CO2



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	ODP (R11=1)	GWP (CO₂=1)	TOXICITY	FLAMABILITY
R11	1	4000	no	no
R12	1	8500	no	no
R22	0,055	1700	no	no
R32	0	580	(no)	YES
R125	0	3200	(no)	no
R142b	0,0065	2000	(no)	no
R143a	0	4400	no	(YES)
R134a	0	1300	no	no
R152a	0	140	no	YES
R227	0	2900	no	no
R717(ammoniaca)	0	0	YES	(no)
R290 (propano)	0	3	no	YES
R600 (butano)	0	3	no	YES
R718 (acqua)	0	0	no	no
R744 (CO ₂)	0	1	no	no
Elio	0	0	no	no



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HANDLE OF REFRIGERANTS

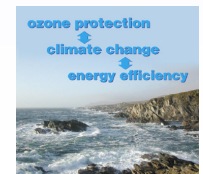
- REFRIGERANTS MUST BE HANDLED BY QUALIFIED PERSONNEL
 - THEY ARE CLASSIFIED “DANGEROUS WASTE”
 - NOT RELEASE THEM IN THE ENVIRONMENT
 - CFC-HCFC OZONE DEPLETION SUBSTANCES
 - HFC GLOBAL WARMING POTENTIAL
- 2037/2000 EUROPEAN REGULATION ODS (MONTREAL PROTOCOL)
 - 842/2006 F-GAS REGULATION (KYOTO PROTOCOL)



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→ ITALIAN TECHNICIANS - CRAFTMEN SHOULD BE QUALIFIED

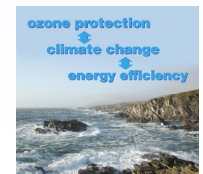
- CERTIFIED
- TRAININGS TO TEACH THEM HOW TO
HANDLE REFRIGERANTS PROPERLY
 - LEAK CHECKING (CATEGORY 1)
 - PERIODICAL INSPECTIONS
 - BREAKING INTO THE CIRCUIT (CATEGORY 2)
 - RECOVERY OF REFRIGERANT (CATEGORY 3)



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AREA - ATF

- AREA - Air conditioning and Refrigeration European Association
 - Collaborate with European commission for the F-gas regulation, minimum requirements and leak checking procedure certifications and training of personnel



- ATF - Associazione italiana dei Tecnici del Freddo
 - AREA Italian member, collaborate with Italian Ministry of Environment, trainings in Italy on refrigeration, air conditioning and energy efficiency and certifications



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**COLLABORATION
POLITECNICO DI TORINO
ASSOCIAZIONE DEI TECNICI DEL FREDDO**

- **12° EUROPEAN CONFERENCE
“LATEST TECHNOLOGY IN REFRIGERATION AND AIR
CONDITIONING INDUSTRY” POLITECNICO DI MILANO
8TH -9TH JUNE 2007**
- **Leonardo Project EMTEU “ Energy Managment Technician”**



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