ISIEC - Initial Safety Information on Experiments at CERN

Obligatory, to be filled and sent to the PH-DSO (dso.ph@cern.ch) and a copy to the PS/SPS Physics Coordinator (sps.coordinator@cern.ch) by all new experiments, new test beam users or in case of major modifications of existing equipment

Experiment	COMPASS	Exp.	NA58

DATE	20. May 2009
INSTALLATION START and END	
SPOKESMAN / tel	Gerhard Mallot / 76423 and Alain Magnon
GLIMOS / tel	Gerhard Mallot / 163425
Fill in by … (email, telephone)	Gerhard Mallot / 163426

1- LOCATION	*Please indicate where the experiment will run*
Beam / Area / Door	M2 / North Area / 221
Labs at CERN (bdg/room)	888

2-GASES,LIQUIDS,CRYOLIQUIDS *Used in detectors or kept in nearby containers*

Device type	Fluid1+% Fluid2 etc	Volume	Abs. Press.	Max Flow
Si: Distribution box with buffer	liquid nitrogen	100 l	1.8 bar	20 l/h
Si 1-3: beam detectors	liquid nitrogen	1.5 l	1.8 bar	9 l/h
Si 4-5: Conical cryostat detectors	liquid nitrogen	1 l	1.8 bar	5 l/h
target	H2 gas	850 l	1.8 bar	closed circuit
Micromegas (3)	Ne/C2H6/CF4 80/10/10%	12 l	1 bar	12 l/h
DCs (3)	Ar/C2H6/CF4 45/45/10%	1300 l	1 bar	15 l/h
Straws (15)	Ar/CF4/CO2 80/10/10%	1500 l	1 bar	closed circuit
GEMS (27)	Ar/CO2 70/30%	23 l	1 bar	56 l/h
RICH radiator	C4F10 100 %	100000 l	1 bar	closed circuit
RICH MWPC (8)	CH4 100 %	320 l	1 bar	closed circuit
MWPC (14)	Ar/CF4/CO2 74/20/6%	140 l	1 bar	closed circuit
Richwall (1)	Ar/CO2 70/30%	3200 l	1 bar	125 l/h
Muonwall 1 (2)	Ar/CO2 70/30%	3200 l	1 bar	125 l/h
W45 (6)	Ar/CF4/CO2 85/10/5%	8000 l	1 bar	closed circuit
Muonwall 2 (6)	Ar/CH4 75/25%	1800 l	1 bar	3000 l/h

3-OTHERS CHEMICALS *Toxic/Corrosive/Flammable metals, solvents, additives etc. (indicate the quantities)*

none

4-ELECTRICITY *Used in detectors or kept in nearby containers*

EQUIPMENT

Electric Equipment	Power	if magnet: Field	if magnet: Gap Vol.
Si: 5 turbo vacuum pumps	5 x 1 kW		

HIGH VOLTAGE (>1KV)

Detector type	Voltage	Current	Stored Energy	No of HV Channels	Remote shut-off?
Hodoscopes	2400 V				yes
Si					yes
RPD	2000 V			20	yes
Micromegas	2000 V			8	yes
DC	3000 V			7	yes
Straws					yes
Gems	4000 V		240 mJ	40	yes
RICH MWPC					yes
RICH PM					yes
MWPC	4500 V			90	yes
Richwall					yes
ECAL1					yes
HCAL1					yes
Muonwall 1					yes
W45					yes
ECAL2					yes
HCAL2					yes
Muonwall 2	3000 V		3J	1800	yes

SHORT-CIRCUIT I>5 mA for >50V possible anywhere?	no

POWER dissipated by all electronics, racks, etc.	
On detectors (kW)	
Off detectors (kW)	

Special grounding requirements	

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5-LIFTING AND HANDLING	
Weight of heaviest single piece to install (kg)	magnet installed 400 t
Specially designed handling equipment?	no
For which max. weight?	

6-VACUUM-, PRESSURE- , CRYO-TANK			*indicate all tanks, except standard gas cylinders*	
Tank	Abs. pressure	Max. preasure	Volume	Weakest part(s) of wall (thickness)

7- IONIZING RADIATION	*Beam Intensity, radioact. Sources, depleted uranium, etc.*

8- NON-IONIZING RADIATION	*Details (class of laser, origin of UV light, average power of microwaves or RF, pulsed or CW, …)*
LASER	see ISI laser forms (RPD laser, 2 ECAL 1 Lasers)
UV LIGHT	
MICROWAVES (300 MHz-30 GHz)	
RADIOFREQUENCY (1-300 MHz)	

9-OTHERS HAZARD (or remarks)

10-RISK ANALYSIS

11-SPECIALISED SAFETY COURSES OBTAINED	*Please indicate certificates, licenses etc.*

12-ANNEX	*if available, please attach the files to your mail*
Electrical layout	
Mechanical design/description	
Other Documents (Conformity, safety tests, etc.)	