



SAFETY FORM – DEROGATION REQUEST

for use of cables not conforming to Safety Instruction IS 23

for use of plastics or other non-metallic materials not conforming to Safety Instruction IS 41

(to be submitted by GLIMOS/Group Leader/Project Safety Officer)

Request submitted by: Klaus BARTH

Experiment/other: **ALICE**

Location: **UX25, P2**

Cable or material details: Supplier: **Samtec**

Trade name: **FireFly cables (custom-made version)**

Base material: Megolon

Justification for choice of cable/material:

The FireFly cable is the one on the market offering the requested number of lines with the necessary signal quality (LVDS-like @ 1.2 Gb/s over 8m) in the smallest available package and with the smallest footprint connection system (FireFly connectors), which is necessary due to the amount of connections in very limited end-wheels space.

Research into alternative cables/materials and why discounted:

Due to the known issue of the commercial version containing halogens in the cladding, a custom-made version, halogen-free has been developed. Material analysis of this custom-made version is available in the attached documentation.

Reasons for non-conformity (re: IS 23/IS 41):

The custom-made cables should conform to IS23/IS41, but due to their high price, it is unlikely we can afford to go through the smoke-test. The neutron material analysis (see attached documentation) did show that no forbidden elements are present in all the components of the cable (included the cladding). The new cladding material (Megolon) data sheet is also attached for reference.

Total amount of combustibles (kg): Length (m): about 3000m of cables

Fire Risk:

Ignition sources (please specify): Electrical

Drips of material/containment: Inside L3



Compensatory measures:

-Combustible material is stored inside an electrical cabinet made from metal sheets. No additional measures necessary.

Documents attached

Material data sheet : X Yes ☐ No

Drawing showing location of X Yes ☐ No
cables/material etc. :

Additional information:

Comment by F. Szoncsó on Jan. 23rd, 2017

Cables do not contain halogens. Special development for small footprint.
Exemption on smoke sought.