Project title: Low voltage laboratory for fuse testing according to 73/23 EEC Directive and European Norm EN 60269-4
Phase number: 1.

Planned objectives:
- Study on the product norms referring to fuse testing
- Technical specification
- Test circuit design

Description of activity (performed within the phase, by using key-words and DESCRIPTORS)

Activity I.1 Study on the product norms referring to fuse testing

The improvement of the present techniques and promotion of new ones related to the testing methods and their certification for low voltage apparatus –LV fuses -have imposed the study of the directives 73/23/EEC and Romanian standards adopting the European norms having the same number

SR-EN 60269-1/2001/A1-2005- Low-voltage fuses - Part 1: General requirements

SR-EN 60269-2/A1:2001/A2:2003- Low-voltage fuses - Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)

SR-EN 60269-4/A1:2001/A2:2004- Low-voltage fuses - Part 4: Supplementary requirements for fuse-links for the protection of semiconductor devices

Got results (the quantifiable results/technical, economic, social, indicators etc. – economic effects recorded at the RD institute etc. are specified):
Study – 1pc.

Stage of achieving the planned objective/finalizing form (of the activity within the phase)
The planned objective has been achieved and finalized as „Study on the product norms referring to fuse testing"

Activity I.2 Drawing up the list with tests following to be accredited and strategy of their implementation into the Low voltage laboratory for testing the fuses with voltages up to 1000 V and currents of 2,5 A up to 1600 A

The following tests will be performed:
-Verification of the temperature rise limits and dissipated power;
-Verification of the breaking capacity in the series I_3;
-Verification of the time-current characteristics and limits;
Got results (the quantifiable results/technical, economic, social, indicators etc. – economic effects recorded at the RD institute etc. are specified):

Technical specification – 1 pc.

Stage of achieving the planned objective/finalizing form (of the activity within the phase)
The planned objective was achieved and finalized as „Technical specification - Low voltage laboratory for fuse testing according to 73/23 EEC Directive and European Norm EN 60269-4– LJTSF-01" –ST ICMET MI nr. 13/2006

Activity I.3 Test circuit design

The test circuit design has taken into account the parameters necessary for testing the fuses and the test conditions.

The electric scheme of the laboratory was designed; it contains

- unfolded electric diagram
- apparatus specification
- low voltage source switchboard
- control desk

The electric scheme designed for the laboratory allows drawing up a test diagram corresponding to each type of fuse.

The rough selection of the test current and voltage is done by choosing the corresponding step of the matching transformer (series or parallel connection of the 4 transformer secondaries), and the fine control by the autotransformer with magnetic flux division.

Keeping constant the test current is done from the automatic control of the autotransformer.

Got results (the quantifiable results/technical, economic, social, indicators etc. – economic effects recorded at the RD institute etc. are specified):

Technical documentation for carrying out “Low voltage laboratory for fuse testing according to 73/23 EEC Directive and European Norm EN 60269-4”– 1 set.

Stage of achieving the planned objective/finalizing form (of the activity within the phase
The planned objective has been achieved and finalized as Technical documentation for achieving “Low voltage laboratory for fuse testing according to 73/23 EEC Directive and European Norm EN 60269-4”