

Center for applicable developments at
Academician Angel Balevski Institute of Metal Science,
Equipment and Technologies with Center for Hydro and Aerodynamics

phone.: + 359 2/ 973 27 16; E-mail: cpr_bas@mail.bg

Center for applicable developments – BAS,
is situated in Sofia and has subjects of activity:

- development of technologies and working out of test samples and small batch productions of scientific-applicable developments of the BAS institutes;
- optional equipment and external consumers' goods

The CAD production facilities are being developed in the following directions:

- Printed-circuit boards workshop
- Tools and mechanical workshop
- Locksmith and mechanical workshop



Photo from the International Technical Fair - Plovdiv

<http://www.cpr.bas.bg>

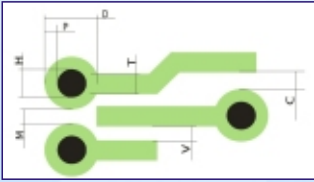
e-mail: cpr_bas@mail.bg

Sofia, Bulgaria – 11 Iskarsko Shosse Blvd., phone: +359 2 973 26 99; mobile: +359 887 330 811

The printed-circuit boards workshop manufactures single-layered and double-layered printed-circuit boards. We have possibilities for production of prototypes as well as of big batch productions of printed-circuit boards.

I. Technological capabilities of our manufacture:

- 1. Minimal distances:
 - between two neighbouring tracks /V/ 200 ± 25 µm
 - between a track and a field /C/ 250 ± 25 µm
 - between two fields /M/ 200 ± 25 µm
 - between a track and a screen (testing ground) 300 ± 25 µm
- 2. Minimal width of a track /T/ 200 µm
- 3. Card thickness 0.5?2,0 ±0.1mm
- 4. Copper foil thickness 18, 35, 70µm
- 5. Minimal holes after metallization. 0,5mm
- 6. Minimal ring/P/ 200 µm
- 7. Maximal dimensions of the printed-circuit card 300 x 450 mm



II. Coating types:

Our standard coating is Sn60Pb/Rh (melted tin-lead). In addition we have possibility for lead-free coating – chemical Nickel-gold, but only for orders over 10 billets. We can make electrochemical gold (only for couplings) only under special agreement when submitting the order. The electrochemical copper thickness for the double-layered cards is 25?30µm.

The melted Sn60Pb thickness is 10?15µm.
The chemical gold thickness is around 1µm.

III. Protective mask:

Normally we work with green semitransparent mask, but upon client's requirement it can be white, blue or black.

IV. Legend print:

It can be in different colours – white, black, yellow etc. We have possibility to make white and black (it is made for light-coloured mask – for example white) .

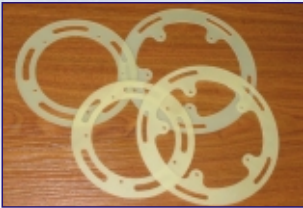
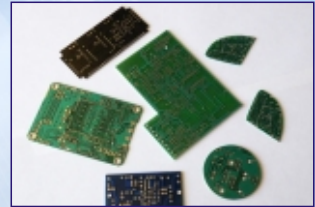
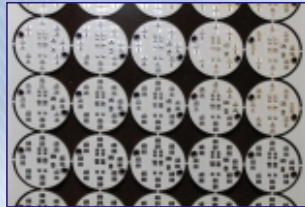
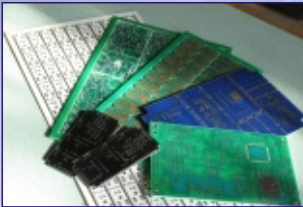
V. Cutting out:

Платките може да получите изрязани на циркуляр по единично или на панел - готови за машинен монтаж. Панелизацията за машинен монтаж се прави след консултация с конструктора, съобразявайки се с изискванията на фирмата, която ще монтира платките.

VI. Materials used:

We manufacture with materials of branch leading producers:

- TECHNOLAM GmbH (NAN YA) – base materials
- KEMMER PRAZISION – drills and milling cutters
- ELGA EUROPE – photographic printing materials
- PETERS – protective mask and screen printing



Tools and mechanics workshop

Tools and mechanics workshop is specialized in the following production activities:

- Turning, milling, grinding
- Designing, working out and assembly of metal racks
- Clamps for compulsively immobilizing of motor vehicles in violation
- Working out of nonstandard metal items, according to the clients' requirements.
- Reairing of dies, molds and cut forms

Items and details for:

- Diki & Co – Sofia
- Filto – S Ltd – Sofia, building company
- Physics of the solid body Institute – BAS
- GLOBUSCOMMERCE LTD / VEEDER – ROOT

Motor vehicles clamps

- “Center of city mobility” SOLLIC – Sofia
- Municipality of Pleven – Financial and economic Activities Directorate at the municipality
- ODPG SOLLIC – Veliko Tarnovo
- Municipal company “Cleanliness” – Montana
- “Parking lots and Garages – Blagoevgrad” – SOLLIC
- Municipal company “Sport estates, parking lots and garages” – Burgas
- “Ceramic commerce” Ltd – Burgas
- Municipal company “Parking lots, garages and public works” – Shumen



http://cpr.bas.bg/tools_mechanical_workshop.html

Technical-manufacture department: Eng. Svetlomisir Djorev
phone: +359 2 / 973 28 15 mobile: +359 884 741 480; e-mail: svetlomisir@dir.bg

Locksmith-mechanical workshop

Locksmith and mechanical workshop performs the following activities:

- Production and assembly of metal boards and cabinets, boxes
- Production and assembly of non-standard doors and protective bars
- Cutting out and bending sheet iron from 0,8 mm up to 4 mm
- Non-standard kitchen equipment, tubs
- Production of non-standard metal goods, according to the customers requirements.



http://cpr.bas.bg/locksmith_mechanical_workshop.html

Chief Locksmith and mechanical workshop: Eng. Mariya Igljikina
phone: + 359 2 / 973 28 15; mobile: 359 884 742 688

CENTER FOR APPLICABLE DEVELOPMENTS

at Academician Angel Balevski
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