



DEPARTMENT OF CIVIL ENGINEERING

INCUBATION CENTRE (PAVER BLOCK)

Sri Raaja Raajan College of Engineering and Technology (SRR CET) an Incubation Centre ("Paver Block") in the Department of Civil engineering in Aug 2021

Launching of Incubation Centre

The construction of block pavement involves preparation of subgrade, sub-base and base course layers, bedding sand and finally the laying of blocks. The block paving can be done entirely by manual labour. However, for efficient construction work, the work force has to be properly trained for this specialised job. Paving can also be done by mechanical means. Technical specifications for laying concrete paving blocks are given in Annexure-I and specification for controlled low strength material for repair work is given in Annexure-II.

Execution of Centre

Preparation of Subgrade

This is the foundation layer on which the block pavement is constructed. Like in conventional pavements the water table should be at a minimum depth of 600 mm below the subgrade. Subgrade should be compacted in layers of 150 or 100 mm thickness as per IRC:36/MoRTH Specifications.

Base and Sub-base Course

Base and sub-base courses are constructed in accordance with standard procedures as per MoRTH Specifications. IRC:SP:63-2018 21 When cement bound base are proposed it may be constructed using dry lean concrete as per IRC:SP:49. The quality control specified in IRC:SP:112 shall apply, in case of repair work where compaction is not possible CLSM may be used as under. i. For footpaths and cycle tracks 2 MPa ii. For cars and light vehicles 4 MPa iii. For heavy vehicles 6 MPa Constructing the layers to proper level and grade is very essential to maintain the level and surface regularity of the block pavement. In small widths where compaction of GSB, WBM, and WMM may not be done adequately it is recommended that 75 mm to 100 mm thick DLC be provided over these granular layers to maintain the level and surface regularity





Placing and Screeding of Bedding Sand

The thickness of the sand bed after compaction should be in the range of 30 ± 5 mm, whereas, in the loose form it can be 30 to 50 mm. It is preferable to restrict the 'compacted thickness to 30 ± 5 mm to reduce the risk of any localized pre compaction, which would affect the final block surface level. Bedding sand should not be used to fill-up local depressions on the surface of a base or sub-base. The depressions should be repaired in advance before placing sand. Sand to be used should be uniformly in loose condition and should have a uniform moisture content. Best moisture content is that when sand is neither too wet nor too dry and have a value of 6 to 8 per cent.

Requirement of sand for a day's work should be prepared and stored in advance and covered with tarpaulin or polythene sheets. The processed sand is spread with the help of screed boards to the required thickness. The screed boards are provided with nails at 2-3 m apart which when dragged gives the desired thickness. The length of nail should take into account the surcharge to be provided in the uncompacted thickness. Alternatively, the screed can be dragged on edge strips kept on both sides as guide. Asphalt paver can be employed in large projects.

The sand is subsequently compacted with plate vibrators weighing 0.6 tonnes or more. Level checks shall be carried out on a grid pattern to establish that the desired level is achieved. Local correction can be done either by removing or adding extra sand followed by levelling and compacting the layer. There will be some settlement of sand after the blocks are placed and compacted, which must be allowed for, while fixing the level of sand bed.

Laying of Blocks

Blocks can be laid generally by manual labour but mechanical aids like hand-pushed trolleys can expedite the work. Normally, laying should commence from the edge strip and proceed towards the inner side. When dentated blocks are used, the laying done at two fronts will create problem for matching joints in the middle. Hence, as far as possible, laying should proceed in one direction only, along the entire width of the area to be paved. While locating the starting line, the following should be considered: On a sloping site, start from the lowest point and proceed uphill on a continuous basis, to avoid downhill creep in incomplete areas.

Maintenance





SRI RAAJA RAAJAN

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After about a week of laying the blocks there is a need to inspect the surface to check for any loss of sand at joints. Wherever sand level has dropped down it should be reinstated. This type of inspection should continue for two to three months till the sand level is stabilized and topping up is no more required. With time the joints receive fine dust and detritus thus making them waterproof. During rains these joints may allow weeds to grow but these normally should get eliminated with the traffic. In case it does not get eliminated these may have to be controlled by spraying herbicide or by manual removal. Annual inspection, however, will be required.

Storage of Blocks

For the purpose of reinstating damaged blocks, it is necessary to stockpile a small percentage of blocks from the lots used in the construction. The size and colour of the blocks may be difficult to obtain at a later date matching with the original blocks. For important projects, it is normal to stockpile blocks from 1 per cent to 3 per cent of initial supply for subsequent use.

Funds

It was created by Sri Raaja Raajan College of Engineering and technology at Kanthan Pavers with the support of our Alumni Student Mr.Praveen who is the Executor of this Project. This Incubation Centre is funded by both Kanthan Pavers and Sri Raaja Raajan College of Engineering and technology.

Problem Resolved:

The student was trained and help to resolve the problems which are highlighted in Problem box with the help of Faculty members Civil Department

PRINCIPAL

Sri Raaja Raajan College of Engg. & Tec
Amaravathipudur, Karaikudi - 630 301
Sivagangai Dist. Tamil Nadu





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MIXING OF PLASTIC & SAND



MOULDING OF PAVER BLOCKS





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INCUBATION CENTRE



PRINCIPAL

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Memorandum of Understanding

This is to certify that the Memorandum of Understanding (MOU) is made on 21st of Sep 2017.

BETWEEN

KANTHAN PAVERS, with its head office located at Aavudi Poigai, Trichy Bypass, Karaikudi - 630208 represented by its proprietor Mr. S.Manikandan

AND

Sri Raaja Raajan College of Engineering and Technology, Karaikudi hereinafter Referred as "SRR CET", locate at "Karaikudi, Sivagangai District, Tamilnadu", recognized by AICTE and Anna University, offering Quality Education and Philanthropy represented by its Principal Dr. A. Kumaravadivel, M.E., Ph.D., M.I.S.T.E,

on the date 21.9.2017 has been signed off and both the parties agree to adhere to the MOU.

The details of the above said MOU are as follows:

Objective:

- To Setting up a development center at SRR CET.
- To Create Incubation Centre for research activities
- To Support all kinds of research activities
- To Conduct the Skill development courses for the students of SRR CET
- To Support special training programme for Entrepreneur Development Cell

Purpose:

- a) To impart Technical knowledge and skills for the students and the faculty of SRR CET through internships, live industrial projects/case studies, training, workshops etc.
- b) To create a bridge to reduce the gap between industries and institutions.
- c) To develop products and solutions for KANTHAN PAVERS projects.

Validity:

5 years from the date of MOU

1. Scope of Works:

1.1 KANTHAN PAVERS

- Setting up a development center at SRR CET.
- Create Incubation Centre for research activities
- Support all kinds of research activities
- Conduct the Skill development courses for the students of SRR CET
- Felicitate set up of a TBL with multiple Companies Centers, if required for SRR CET.
- Support special training programme for Entrepreneur Development Cell
- Mentor the students and Faculty for converting their Creative Ideas into Products

1.2 Sri Raaja Raajan College of Engineering and Technology, Karaikudi (SRR CET)

- a) Provide infrastructure support to SITAARE, based on the listed down requirements.
- b) Appoint SPOC for Continuous Coordination, Implementation and Execution of this MOU.
- c) Provide minimum 10 interns, and also permit other KANTHAN PAVERS Interns to utilize the center, when required.
- d) Promote the need of having hands on Experience in Live Projects, Industrial Advancements for the students, in order to get their technical skills and Entrepreneurial Skills upgraded.
- e) Promote Faculty to get latest insights about the Industrial sector through FDP Programs, and give preference to Industrial Projects.

- f) Utilize the KANTHAN PAVERSD evelopment Center for Innovation Initiatives of SRR CET, its Faculty and Students.
- g) Provide Boarding and Lodging for KANTHAN PAVERSPersonnel during their Visits Stay at the Development Center.
- h) Promote the culture of taking up challenges to the students, to have their development and Progress.
- i) Utilize the KANTHAN PAVERSD evelopment Center for creation and implementation of new innovative ideas for thedevelopment of Individuals, Institution and the Nation.
- j) Insist the need of Innovation, Entrepreneurship, Learning and Implementing Advanced Technologies,Development of Solutions/Products along with Quality Education to the students of SRR CET.
- k) Ensure discipline, ethical behavior of the personnel utilizing the development center for growth.

2. Infrastructure Requirements to be provided by SRR CET

Work space of minimum 300 sq ft/ 30 sq.m with provision for Displaying KANTHAN PAVERSDName board and Centerdetails, One Shelf and required Stationery.

Minimum of 5 Desktops/ Laptops with a configuration of minimum 4GB RAM/500GB HDD, 2 GHZ Clock

Speed with USB/Optical Drives, uninterrupted power supply and Internet Connectivity (Existing Systems from Labs can be used on Sharing basis).

MS Office (All tools) ,Photoshop, Adobe, Any Desk/TeamViewer, Antivirus and other basic softwares usedfor the major course related subjects (Like AutoCAD, IT Softwares, Ansys, Primavera, Matlab etc).

Support to install any additional software tools required for the development center.

Provide necessary support in the PLM Cycle of KANTHAN PAVERSDProducts/Solutions.

3. Activities to be carried out by KANTHAN PAVERSDas part of MOU

- Internships and Training for Interns.
- Industrial Awareness for Students and Faculty.
- Insights about Latest Technology and Industrial Trends to create awareness.
- Support in creative ideas, Innovation activities of SRR CET and Patent/IPR support.
- Live Industrial Projects/Case Studies and working experience.
- Carry out Product/Solution development at the center.
- Provide Placement for Students.

4. Financials:

- Financial Criteria will share by both parties
- In case of any additional services needed by SRR CET, apart from the above indicated ones, the charges will be mutually discussed and agreed on a case-to-case basis. The charges, if any, are subject to the applicable taxes and necessary supporting bills should be accompanied.

5. Non-Disclosure and Confidentiality:

By Signing on this MOU, both the parties agree that confidential information about both the parties, will never be disclosed by any one of the parties, to any third party without the consent of the other party. Also, this document is confidential and both the parties can utilize it only for the purpose of Accreditation / Recognition / Incorporation from any Professional/Government Bodies only. Any other usage apart from the above has to be done with the writtenconsent of the other party.

6. Termination:

Both Parties can mutually terminate this MOU, with a prior written notice of 6 months. Upon termination both the parties shall return the infrastructure / Confidential information / any other tools/programs to each other.

7. Renewal of MOU:

The MOU can be renewed upon its expiry for an additional period of 1 to 5 years, based on mutual agreement between both the parties.

8. Annexure to MOU

Through Annexure to this MOU, both the parties can perform below activities.

- a) Add any additional services based on mutual agreement between both parties.
- b) List down the details of the Development activities.
- c) Indicate any activities that are being carried out (Non-Commercial or Commercial) with specific details.

9. Jurisdiction

This MOU falls under the jurisdiction of the courts in Karaikudi, Sivagangai District, TamilNadu, India..

For KANTHAN PAVERS For SRR CET

Mr. S.Manikandan

proprietor Placement Officer

Witness:

1. 

Witness:

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