B M T P C

PACS

PERFORMANCE APPRAISAL CERTIFICATION

Performance **A**ppraisal **C**ertification **S**cheme

EXPLANATORY HANDBOOK

Certification Scheme to Propagate Innovative and New Building Materials & Technologies

Building Materials & Technology Promotion Council
Ministry of Housing and Urban Affairs
Government of India
New Delhi, India

PREFACE

With the fast changing market scenario, economic liberalization and technological developments, a large variety of new building materials, products, components and composites are emerging in building construction market. The architects/engineers, construction agencies, builders and other customers are frequently confronted with the question of quality, durability, serviceability and performance of new building materials, products, components and systems.

Though status of national standards on building materials and construction techniques in India is far superior to many developing and even some developed countries but process of standardization is time consuming and requires the support of field performance of materials before standards are formulated. Further, standards cover generic qualities and properties that cannot be comprehensive enough to cover each and every emerging building materials /technologies and therefore, a large number of building products, components and composites are being marketed with several claims of superiority which cannot be substantiated either due to non-availability of relevant standards or lack of test and evaluation methods/or proprietary nature of products revealing not much about their character, design etc. As per practice in large number of industrialized countries, such a situation calls for providing Performance Appraisal/Evaluation Certification Services by an independent agency to guide the architects, engineers, builders and other users of building materials, products and building systems.

With the above background, the then Ministry of Urban Development & Poverty Alleviation (now Ministry of Housing & Urban Affairs), Government of India, under the Gazette Notification has authorized BMTPC to issue Performance Appraisal Certificates (PAC) giving independent opinion of the fitness of new building materials, components, products, elements, construction system and assemblies for intended use, not yet covered by Indian standard. This scheme provides for a third party certification for certifying the performance of the product and in the process, it generates sufficient data needed for formulation of Indian Standard at later date. BMTPC has so far issued 69 Performance Appraisal Certificates (PACs) for various new materials & construction systems.

In order to give new fillip to PACS, BMTPC is publishing an explanatory handbook on PACS which elaborates all the aspects of PACS and dispels the various doubts about the scheme for the benefit of prospective applicants.

We are sure that PAC on the new and innovative product/system, which would contain all the details about the technical aspects including its performance characteristics and suitability for varying uses will be quite helpful in exploring wider market potential. It will also help in building greater confidence in user's mind and developing ultimately the Indian Standard on the subject.

29th September, 2020
New Delhi

Dr. Shailesh Kr. Agrawal
Executive Director, BMTPC

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1. INTRODUCTION

Ministry of Housing and Urban Affairs (erstwhile Ministry of Urban Development), Government of India authorized Building Materials & Technology Promotion Council (BMTPC) through Gazette Notification No.I-16011/5/99 H-II in the Gazette of India No. 49 dated December 4, 1999 to operate the Performance Appraisal Certification Scheme (PACS) at national level for certification of building materials, components, products, units, elements of construction and assemblies, system and subsystems giving independent opinion of the fitness for their intended use in the form of Performance Appraisal Certificates (PAC). The PAC will clearly spell out the conditions under which the products were evaluated for agreed performance in given situation and the details required to be adhered to during the construction and assembly / installation.

Performance provisions provide statements of what a product, system/subsystem **must do** rather than what it **must be**.

Performance provisions allow the widest possible scope for innovation; any product, subsystem or system that can do the job can be used. The scheme has been conceived to promote use of such innovations, which will have beneficial effect on the society as a whole. It motivates R&D establishments to innovate, the user to use such products and the manufacturers / suppliers to provide such products to the user.

PACS operation is fully transparent and in order to ensure transparency and objectivity, it is administered by a tier of committees of experts, the structure consists of:

1) BMTPC Board of Agreement (BMBA) with a senior technical expert as its President and nominees from Construction Industry Development Council, Professional Bodies, major government bodies like the Council of Scientific and Industrial Research, Central and State Public Works Departments, Industry Associations, eminent individuals.
2) Technical Assessment Committee (TAC) with a senior technical expert as its Chairman and members from R & D Institutions, Bureau of Indian Standards, Professional Bodies, user departments and other concerned agencies/ experts.

The Committee is assisted in the assessment of products by individual experts in the related fields, and well established laboratories.

2. WHO CAN APPLY

- Manufacturers/suppliers/installers of products
- Manufacturers/suppliers of machinery
- Construction agencies/installers (provided the system/product used is covered by PAC)
- Installers of proprietary system (provided the system/product used is covered by PAC)

3. CHECK POINTS BEFORE APPLICATION

3.1 Check whether Indian Standard exists for the product. Check whether the product is certified (for any other manufacturer also) under BIS Standard Mark Scheme (ISI Mark).

3.1.1 If the product is covered under ISI Mark, ensure that the product satisfies additional requirement(s) not specified in the relevant Indian Standard. Mere enhanced value for any requirement already specified in the Indian Standard is not enough for PAC. In the event PAC is granted earlier to ISI licence, PAC will be withdrawn once ISI licence is granted.
The Table at *Annex 1* gives the broad criteria for this purpose.

3.2 Check also whether the product satisfies criteria listed in *Annex 2* for evaluatoin under PACS.

4. APPLICATION AND REPORT ON FEASIBILITY TO GRANT OF PAC

4.1 The assessment procedures and document requirements will be product/process/applicant specific. In view of the wide variety of products which would be covered by PACS and different levels of preparedness of aspirants to PAC, some preliminary information regarding each applicant and product would be required by the Appraisal Unit of BMBA (AU) to decide on the detailed information needed to work out the assessment procedures. At the same time, it is felt inappropriate to call for such detailed information and documentation at the initial stage. The application will, therefore, be in two stages, namely Preliminary Application and Detailed Application.

4.2 The **Preliminary Application Form (PAF)**: The PAF has been designed in such a way that only minimum information required to formulate the Detailed Application Form (which would be product/ process/ applicant specific) is called for. In filling the PAF, applicants are only required to tick appropriate boxes with minimum writing on the basis of information that the applicant will readily have. The items in the PAF are those on which anyone starting a manufacturing unit is expected to have information. The PAF is attached at the end of this document.

4.3 On receiving the PAF, Appraisal Unit (AU) of BMBA will establish in consultation with applicant, the details of the product, and its use in order to define the scope of the appraisal. The following will be covered in the discussion.

- The process of performance appraisal.
- Details of the product ,process of manufacture, its use, special feature of the product, limitations, if any.
- The applicable building codes and other regulations.
- Applicant's claims about the product
- Quality management practices followed by applicant.
- Data available with applicant/to be generated to design the appraisal procedure
- Documentation available with applicant/ to be prepared by applicant to substantiate the claims made.
- Documentation relating to third party certification (e.g. ISI mark, ISO 9000 certification/ opinion etc.)

- Data / information required to prepare PAC

It's a good idea to define the purpose of the product fairly **within narrow, clear, unambiguous parameters** to avoid delay and minimise the cost of appraisal, to avoid spending money unnecessarily on purposes for which the product would not be suitable.

4.4 After discussion, applicant will be informed whether the product can be covered under PACS. A Report will be prepared indicating the scope of assessment, data and documents required and other actions to be taken by applicant if they wish to proceed further.

4.5 If it is concluded that the product can be covered under PACS, Appraisal Unit of BMBA will provide applicant with a Detailed Application Form (DAF) custom designed for the product, process and applicant. The DAF will have an Annex listing out the documents to be provided by the applicant along with the DAF. The general coverage of DAF is indicated in *Annex 3*.

This process will take about 4 weeks.

4.6 In order to apply, the duly filled in attached Preliminary Application Form (PAF) can be submitted to :

The Executive Director
Building Materials & Technology Promotion Council
Core 5A, First Floor, India Habitat Centre
Lodhi Road, New Delhi-110 003

with the fee of ₹ 1500.

PAF can also be downloaded from website **http://www.bmtpc.org**.

FEE STRUCTURE

S. No.	Description	Fee
i.	Preliminary Application Fee	₹ 1,500
ii.	Status report (if desired)	₹ 3,000
iii.	Detailed Application Fee	₹ 15,000
iv.	Fixed portion of Assessment Fee	₹ 75,000
v.	Fixed portion of PAC printing charges	₹ 3,000
vi.	Annual Certificate Fee	*Products:* ₹ 75,000 *Systems:* ₹ 1,00,000
vii.	Surveillance Inspection	Actuals
viii.	Variables to cover testing charges, factory /site inspections etc.	Actuals
ix.	Renewal application fee	₹ 9,000
x.	Renewal fee	₹ 10,000
xi.	Concessions	i) Small scale units/ MSME –15% of the fixed costs ii) Social concerns 4%-5% for conservation of CO_2 emission, for social causes like utilization of waste materials, energy saving and use of local materials. iii) Make in India products/systems – 15% of the fixed costs iv) Start-ups – No fixed costs
Note: As per the Govt. Notification, w.e.f 1st July, 2017, GST @ 18% over the total amount is to be paid for the services provided.		

5. DETAILED APPLICATION

5.1 The complete DAF with all Annexes is to be submitted to Building Materials & Technology Promotion Council along with the fee.

5.2 The Member Secretary (MS) of BMBA will decide at this stage also whether the product can be covered under PACS. Criteria as at *Annex 2* will generally apply.

5.3 If MS of BMBA decides that the proposal can be processed a detailed Assessment Procedure will be worked out which amongst other things will include, as may be necessary, the following:

(i) List of applicable and available specifications and codes of practice. If no related Indian Standards or International Standards or Standards of any other organization/country are available, applicant may be required to develop company standards covering all aspects of the product from raw materials, finished product, code for installation, methods of test etc. BMBA will be happy to advise on this matter.
(ii) Criteria for assessment.
(iii) Guidelines for performance criteria for evaluation of product is given in *Annex 4*.
(iv) Assessment procedure and programmes
(v) Samples to be taken
(vi) Lab testing procedure and lab testing programmes.
(vii) Field/ in-use testing/ field trial procedures and programmes.
(viii) Prototype testing if required.
(ix) Environmental, energy conservation, waste material utilization, social and regulatory aspects to be addressed.
(x) Contents of Performance Assessment Certificate
(xi) Appraisal and other fee

The appraisal and certification services will be provided on payment of predetermined fees which would include processing fee; actual expenses incurred for testing, inspections and assessment and an annual fee.

The above will be discussed with applicant before finalization of the appraisal procedure by BMBA.

The applicant will be required to submit the quality assurance scheme practiced for given product during the processing of application. However it is not a pre-condition for submitting detailed application.

6. APPRAISAL PROCESS

6.1 The appraisal process starts once the agreement between applicant and BMBA is signed and the appraisal fees is paid. The process is briefly shown in the Chart at *Annex 5*.

6.2 For assessment, experts will be nominated by BMBA. The number of experts will depend upon the product and the quantum of work involved in the appraisal.

6.3 Laboratory and field tests/ field trials will be conducted as may be necessary.

6.4 The experts may inspect the production site, the manufacturing process, the product being installed and in use. An inspection report will be prepared.

6.5 All the related documents and data provided and documents of tests at 6.3, 6.4 will be evaluated by the experts. The extent of assessment as per 6.2, 6.3 and 6.4 will depend on the assessments already made by other organizations and the extent of their acceptability to BMBA.

6.6 An appraisal report will be prepared by experts.

6.7 If the product is found suitable for PAC, a draft PAC will be prepared after discussion with applicant and processed for grant of PAC.

If the assessment is negative, a report is provided to the applicant to take corrective action and request for another appraisal within a stipulated period.

The applicant will be invited to participate in the meeting of the Technical Assessment Committee in which the application will be formally considered for grant of PAC.

6.8 The applicant will be provided with our official certificate duly signed by authorized officers of BMBA.

6.9 The total time taken for the entire process will depend upon applicant's preparedness and the extent and acceptability of documents provided with applications. An approximate minimum time will be 4 months.

7. PERFORMANCE APPRAISAL CERTIFICATE (PAC)

7.1 The PAC will amongst other things stipulate the conditions to be fulfilled by the applicant on continuing basis. Contents of PAC will depend upon the product / process /applicant

7.2 PAC is granted for a period ranging from 2 to 3 years depending on the product and the status of provenness of the product.

7.3 PAC may be modified during the operative period at applicant's initiative or at the initiative of BMBA. The fee for this purpose will be worked out and intimated to party. The procedure will generally be in line with the procedure for initial grant of PAC and detailed procedure will depend on the nature and extents of the amendment.

7.4 BMBA will notify suitably every certificate issued, its amendments, and renewals.

7.5 Building regulatory authorities are informed about PAC issued. A press note is issued.

7.6 The copyright of PAC rests with BMBA. The applicant will have to pay for the copies of PAC printed by BMBA on applicant's request. BMBA has the right to sell the copies at a price.

7.7 Copies of PAC will be printed and available for sale.

8. OPERATION OF PAC

8.1 The whole Scheme is operated on the basis of well laid down documented procedures.

8.2 Fee - A predetermined fee will be charged. The fee would include processing fee, actual expenses incurred for testing, inspection and assessment and an annual fee.

8.3 Manufacturing premises/premises where installation is going on, installation will be inspected at least once a year.

8.4 Basic obligations of Performance Appraisal Certificate (PAC) Holders is given at *Annex 6*.

8.5 Any complaints on the product will be investigated together with applicant. Only actual expenses incurred in investigation will be payable by the applicant.

8.6 PAC may be modified, suspended/ withdrawn/ cancelled as may be decided by BMBA after following a laid down procedure giving applicant sufficient notice and opportunity for presenting the case.

8.7 PAC can be renewed at the end of each validity period, after following a laid out procedure.

9. APPEALS BY APPLICANT

If applicant is aggrieved by the decisions at any stage, one can appeal to the Board of Management of the Building Materials & Technology Promotion Council (BMTPC) within 15 days of communication of the decision to the applicant.

10. PACS CERTIFICATE : What it means to Applicant

- Provides a third party assessment of the product with the involvement of experts.
- Gives the privilege of using a logo indicating that applicant is a PAC Holder, that is that the Product has been assessed by a third party verifying the claims which are also documented in the Certificate.
- Provides a marketing tool.
- Gets technical assistance from experts during the process of assessment.

11 PACS AND PROVISIONS FOR NEW MATERIALS IN NBC

The National Building Code of India (NBC) 2016 Part 5 (Building Materials) formulated by the Bureau of Indian Standards mentions that NBC does not intend to prevent the use of any material not specified in Code. Any such material may be approved by the Authority or an Agency appointed by them for the purpose, provided it is established that the materials is satisfactory for the purpose intended and the equivalent of that required in the relevant part of NBC or any other specifications issued or approved by the Authority.

Clause 4, part 5, NBC 2016 further mentions
"For ensuring the conformity of the materials for which Indian standards exists and for new or alternate materials, to requisite quality parameters the services under the Third Party certification Schemes of the Government, may be utilized with advantage."

PAC will provide the instrument to the user to specify new materials not specified.

12. OPTIONAL SERVICES

12.1 If the Board of Agreement (BMBA) provides services to an applicant which are normally in the domain of the applicant's technical personnel/consultant, such services will be charged separately. The charges will be worked out in advance and intimated to the applicant. Some examples of such services are preparing specifications and test methods for the product and raw materials (if not already available), the Scheme of Quality Assurance to be followed as a part of operation of PAC etc.

The responsibilities of Users of Performance Appraisal Certificate (PAC) is given at *Annex 7*.

Annex 1
(Para 3.1.1)

INTERACTION BETWEEN BIS CERTIFICATION AND PACS

Sl No.	Proposal Subject	Whether Indian Standard Exists	Whether Covered by ISI Mark	Whether Proposal has Additional Claims over IS /New Applications	Action by BMTPC
1.	Material/ Product/ Component	Yes	Yes	No	Reject application
2.	"	Yes	Yes	Yes*	Process after consultation with BIS
3.	"	Yes	No	No	Process for PAC @
4.	"	No or Tentative	-	-	Process for PAC
5.	Systems /Techniques	Yes/No	No	Yes/No	Process for PAC

* *Additional claims should be performance oriented.*

@ *Will be advised to contact BIS simultaneously for BIS Certification. Agreement certificate will not be renewed once BIS certification licence is granted.*

Note:

1. BIS will review relevant Indian Standards as necessary, after issue of certificate under PACS.

2. All certificates issued under PACS will be forwarded to BIS who may consider issue of BIS certification for use of its standard mark also for such products when considered necessary.

3. Feed back from use of products/systems certified under PACS will be provided to BIS for formulation/ review of relevant Indian Standards.

Annex 2
(Para 3.2, 5.2)

CRITERIA FOR DECIDING WHETHER A PRODUCT CAN BE COVERED UNDER PACS OR NOT

The following criteria shall apply:

i. Documents authenticating the name of the firm and its location should be available.

ii. The applicant should have access to competent technical person related to the product.

iii. If specification relating to the product and tests are not available, enough data should be available for formulating specification for the product and tests.

iv. Product should not be under BIS Certification.

v. If the product is certified under the BIS Certification and to be covered under PACS, the applicant product should satisfy some additional requirement(s) over and above those specified in the Indian Standard formulated by BIS.

vi. Test methods to test the product/materials and performance requirements should be available; test methods developed by applicant will also be considered.

vii. Test facilities should be available / able to be created within a reasonable time frame.

viii. Field use/field evaluation data should be available or capable of being generated within a fixed time frame.

ix. Should provide at least one of the several social aspects listed in item 6 of Preliminary Application Form (PAF)

x. Should not violate existing Acts related to environment and pollution.

xi. Should not be violative of any provision of the National Building Code of India (formulated by BIS)

If any of the above criteria is not satisfied at the time of evaluation of the Preliminary Application or is not capable of being satisfied within a specified time frame, the product would be considered as unsuitable for PACS at the time of evaluation. The applicant is free to apply again when the infirmities are removed.

Annex 3
(Para 4.5)

GENERAL INDICATION OF COVERAGE IN DETAILED APPLICATION FORM (DAF)

1. Applicant and product specific 'Detailed Application Form' is prepared on the basis of 'Preliminary Application' received from an applicant. The DAF is designed to get information/ documents to cater for the following as applicable

   i) substantiate wherever necessary, the information given in PAF.

   ii) plan a comprehensive assessment scheme for the product and to estimate the assessment costs.

   iii) evaluate the assessments already made by other agencies

   iv) to assess the environmental impact of the product.

   v) assess usefulness to the user

   vi) assess the economies it will lead do.

   vii) assess adherence to applicable Building bye laws ,acts ,related rules and regulations.

   viii) assess conformity to existing applicable standards, if any.

   ix) plan the quality assurance regime which applicant as PAC holder will have to adhere to

   x) plan the contents of the Performance Appraisal Certificate and the attachments to it and draft these documents.

   xi) Documents / information relating to positive answers in PA.

   xii) Guarantees/warrantees provided to the user/customer/owner

   xiii) After sales service facilities.

   xiv) Availability of spares / replacements / repair kits

2 The documents to be provided by the applicant as attachment to completed DAF are listed in an Annex to the DAF and these would be generally those concerning the following, as applicable to a given applicant and product.

   i) Performance requirements and product specifications.

   ii) Limitations, if any, of the product)

   iii) Experience in use

   iv) Prior assessments – laboratory and in – use / field trials.

   v) Manufacture

   vi) Quality assurance in manufacture.

vii) Laboratory tests and field tests/ field trials.

viii) Building bye laws, acts, related rules and regulations required to be satisfied by the product.

ix) Design, installation procedures and related drawings

x) Special training needs , if any for installing / using / maintaining the product

xi) Use, maintenance, replacement

xii) Durability and life cycle costs.

xiii) Environmental aspects specific to the product and process of manufacture, use of the product and disposal after useful life of the product including disposal of by-products, if any.

xiv) Social aspects as indicated in the PAF.

xv) Product, Quality System and Performance Appraisal Certificate(s) of foreign collaborators, if applicable

xvi) Other manufacturers of product, in India / other Countries

xvii) Guarantees / warrantees provided to the user / customer / owner

xviii) After sales service facilities

xix) Availability of spares / replacements

xx) Set of manuals / instruction booklets etc. given to the user / customer / owner

xxi) List of manufacturing /process machinery

xxii) List of test equipment

xxxiii) Specifications / test methods relating to the product (including those for raw materials / components), if any, developed.

Annex 4
(Para 5.3)

GUIDELINES FOR PERFORMANCE CRITERIA FOR EVALUATION OF PRODUCT

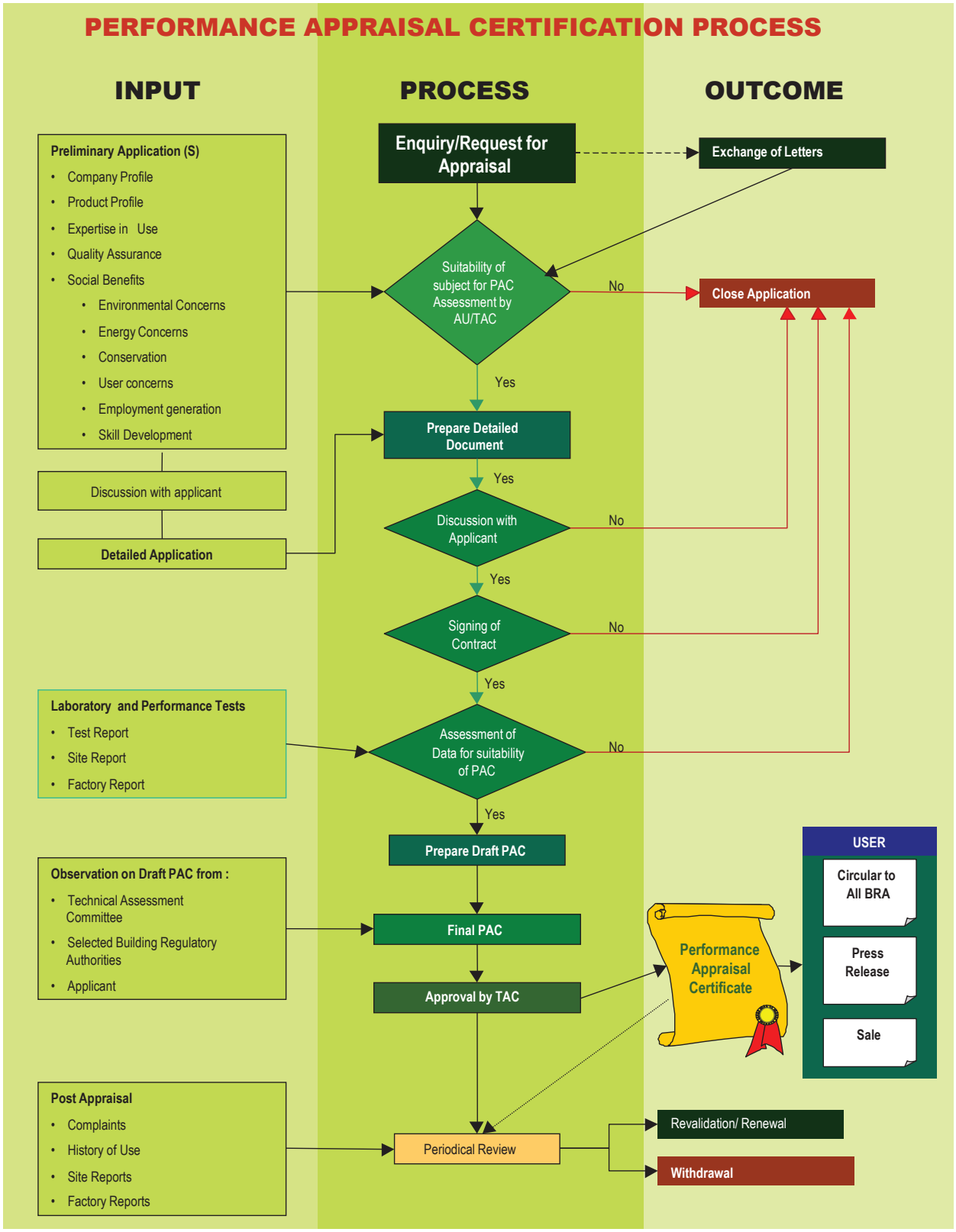
Any Product (which includes building materials, products, components, elements, sub systems and systems) are required to be assessed against certain Performance criteria for the purpose of PACS. Parameters against which detailed criteria will be evolved for evaluating a product will generally focus on the following, as applicable:

- Material quality
- General appearance
- Dimensions and dimension stability
- Structural stability including strength properties
  - lateral and horizontal stability
  - compression
  - tension
  - shear
  - bending
  - torsion
  - impact
  - hardness
  - resistance to fatigue
- Fire safety
- Durability
  - durability of specified components
  - durability of components and assembly
- Thermal properties
- Mechanical properties
- Acoustic properties
- Optical properties
- Biological effect
- Environmental aspects
- Working characteristics
  - ease of handling
  - consistence, workability
  - ease of cutting, bending, sawing
  - capability of being jointed to other building components
  - surface treatment
  - capability to withstand rough handling
  - capability to withstand storage

The detailed criteria will be worked out from product to product.

Annex 5
(Para 6.1)

PROCESS CHART OF PACS



Annex 6
(Para 8.4)

BASIC OBLIGATIONS OF PERFORMANCE APPRAISAL CERTIFICATE (PAC) HOLDERS

1. The responsibility for ensuring conformance of the product to the PAC is with the applicant (the Holder of the Certificate).
2. Implement all the conditions under which the PAC was granted.
3. Maintain and assure quality as per the requirements stated in the Certificate and relevant standards.
4. Maintain records as per conditions of Grant and those required for collecting technical data on the product for review of performance.
5. Inform BMBA listing points of deviation if at any time the applicant do not adhere to the requirements of the certificate and stop claiming to customers that applicant holds PAC. In that event do not resume claim unless cleared by BMBA.
6. Make a request to BMBA if applicant wants PAC to be amended. Use standard form, obtainable from AU of BMBA.
7. Maintain list of suppliers/licensees of the product and provide a list to BMBA. Update it as required.
8. Preserve the original Certificate carefully.
9. Do not photocopy the Certificate. BMBA will print the Certificates and provide copies for distributions at some fixed price.
10. If applicant stop operating PAC, return the original Certificate and the left over printed copies to BMBA.
11. Pay all Certificate dues to BMBA regularly.
12. Show the original PAC to the user on demand and inform the user of the current status of the PAC.
13. Inform the user about the conditions stipulated in the PAC as also limitations, training needs, user precautions and maintenance of the product.
14. Seek user/customer feed back and improve the product and system.
15. Attend to genuine customer complaints promptly and to their satisfaction. Provide redressal even before user/ customer approaches BMBA.

Note: Responsibilities and obligations of PAC holders are detailed as a part of PAC issued to the applicant.

Annex 7

RESPONSIBILITIES OF USERS OF PERFORMANCE APPRAISAL CERTIFICATE (PAC)

1. The main stay of the PAC is the claim of the manufacturer/supplier and verified by BMBA as a third party by tests, study of documents supplied by the PAC holder, laboratory and field tests / field trials, as necessary, using independent laboratories, and studied opinions expressed by experts involved in evaluation. Therefore, the responsibility of ensuring conformance of the product to the PAC rests with the supplier and the user in their respective areas of responsibility.

2. Users have the right to see the Original PAC with the Certificate Holder (CH) who is supplying the product claiming that it holds PAC.

3. Ensure that the PAC is valid; check the validity date of the PAC. Check the status of PAC given on the back of the cover page of the original PAC referred at 2 above.

4. Either user or his consultant should be fully aware of the contents of the PAC.

5. Ensure that user/consultant uses the design data provided in the Certificate

6. Ensure that the workmen, if involved, in installing the product, are properly trained as stipulated in the Certificate

7. Ensure that the product is installed and used under the limitations including the other conditions stipulated in the PAC.

8. Ensure the product is maintained/repaired/replaced as stipulated in the PAC.

9. If the product fails to perform as stipulated in PAC, after ensuring 1 to 8 above, user have the right to lodge a complaint with the supplier (PAC holder) and BMBA. User has the right to redressal from the supplier for the genuine complaint. In relation to genuineness of complaints the decision of TAC of BMBA is final.

10. In case of any doubt or user have any queries, users are welcome to contact BMTPC.

Annex 8

ABBREVIATIONS

AU	:	Appraisal Unit of BMBA
BMBA	:	BMTPC Board of agreement
BIS	:	Bureau of Indian Standards
BMTPC	:	Building Materials and Technology Promotion Council
DA	:	Detailed Application (ie filled DAF)
DAF	:	Detailed Application Form
ED	:	Executive Director of BMTPC
ISI	:	Standard Mark (Product Certification Mark) of BIS
ISO	:	International Organization for Standardization
MS	:	Member Secretary of BMBA
NBC	:	National Building Code of India formulated by BIS
PA	:	Preliminary Application (i.e. filled PAF)
PAC	:	Performance Appraisal Certificate
PACS	:	Performance Appraisal CertificationScheme
PAF	:	Preliminary Application Form
TAC	:	Technical Assessment Committee of BMBA

DOC. NO. : FOM/09/01

BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL (BMTPC)

PERFORMANCE APPRAISAL CERTIFICATION SCHEME (PACS)

PRELIMINARY APPLICATION FORM (PAF)

(Tick √ Appropriate boxes where provided. If uncertain/unknown tick √ empty box where provided. Y=Yes, N=No. NA= Not applicable. Strike out items not applicable)

Note 1: *Fill the Form on the basis of information already available with you. At the time of study of your Preliminary Application (PA) duly filled, the Appraisal Unit of the BMTPC Board of Agreement will prepare a Detailed Application Form (DAF) specifically tailored to your organisation. The DAF will list all the information needed, indicate to you the information, if any, to be collected as a part of the Detailed Application.*

Note 2*: Use separate form for each product.*

Note 3*: It will be of help to expedite the processing of your Application if you provide along with PA, information listed in the Annex to this form.*

Note 4*: If you attach Annexes number them serially and reference them against the corresponding item. If the information is contained in a overall document(s) which you attach, either extract the relevant information as Annex or provide page reference to the overall document; the former procedure will be helpful in clearer understanding by us.*

Note 5*: You may provide any additional information which in your opinion will be useful in planning the assessment and in assessing the product.*

Note 6*: All information provided by you in this Form will be treated as confidential.*

1 ORGANIZATION/COMPANY PROFILE

1.1 Name of Organization/Company _____

1.2 Date of establishment _____

1.3 Are documents authenticating the name of the firm and its location available ?

Y	N

1.4 Addresses

_____
_____
_____
_____

1.5 Communication Link
Telephone _____
Fax _____
E-mail _____
Web Site _____

1.6 Name and Address of C.E.O.

Telephone : Office _____ Residence _____
E.mail: _____

1.7 a. Total number of employees:

b. Total number of technical personnel:

1.8 Annual Turnover: _____

1.9 Any foreign collaboration (technological)? | Y | N |

If yes, name and address of collaborating Organization

Does the collaborator have similar Certification in his country ? | Y | N | |

1.10 Applicant is Manufacturer/Supplier/Installer/Exporter/Importer* of the Product applied for
*Strike out whichever is not applicable

2. PRODUCT PROFILE

2.1 General

2.1.1 Name of the Product : _____

2.1.1.1 Is it a material/product/component/sub-system/system/any other (specify)

2.1.2 Since when is the production in the market ? _____ Month _____ Year

2.1.3 Attach any pamphlets you may have on the product (including technical details)

2.2 Use

2.2.1 The product is meant for internal use /external use; dry situations / wet situations

2.2.2 Its use_____

2.2.3 Which traditional product does it intend to replace/supplement?

2.2.4 What are the advantages to the user ?
_____
_____

2.3 Development and extent of indigenous content

2.3.1 Where was the product developed?

Organization	City	Country
_____	_____	_____
_____	_____	_____

2.3.2 Where was it tested?

2.3.3 Is it indigenous or imported? indigenous / imported

2.3.4 Are there other manufacturers of the product in India ?

Y	N	

2.3.5 Are there suppliers in India of similar product from another country ?

Y	N	

2.4 Process

2.4.1 List of raw materials / components used in the manufacture / assembly / installation of the product

_____
_____
_____
_____
_____

2.4.2 Does the process yield any byproduct(s)?

Y	N

2.5 Susceptibility to attack by/ inhibits

Susceptibility to attack by					Inhibits			
NA	Y	N		RODENT	NA	Y	N	
NA	Y	N		INSECTS/ BORERS	NA	Y	N	
NA	Y	N		FUNGUS	NA	Y	N	
NA	Y	N		MOULD	NA	Y	N	

2.6 What are the performance characteristics applicable to your product?

Tick √ the first box if the performance characteristic is applicable, cross **x** if not applicable, leave blank if uncertain.

If related test results are available tick √ the second box; leave blank if test results are not available.

If test method is available to evaluate the performance, tick √ the third box, blank box will indicate 'NO'. If you have no information write 'NIL' in the box.

Required Performance Characteristics	Test results available		Test method availability
	1	2	3
i. Mechanical/structural stability	☐	☐	☐
ii. Behaviour in fire	☐	☐	☐
iii. Behaviour in rain/storm/lashing rain	☐	☐	☐
iv. Thermal performance	☐	☐	☐
v. Acoustic performance	☐	☐	☐
vi. Behaviour under high wind/storms	☐	☐	☐
vii. Behviour in humid conditions	☐	☐	☐
viii Behaviour under high moisture	☐	☐	☐
ix. Behaviour submerged in water	☐	☐	☐
xi. Snow	☐	☐	☐
xii. Behaviour under dynamic loads	☐	☐	☐
xiii. Behaviour in earthquake	☐	☐	☐
xiv. Energy consumption in installation	☐	☐	☐
xv. Energy consumption in use	☐	☐	☐
xvi. Energy consumption in manufacture	☐	☐	☐
xvii. Health/hygiene requirements	☐	☐	☐
xviii. Ventilation requirements	☐	☐	☐
xix. Durability requirements	☐	☐	☐
xx. Behaviour under different geo-climatic conditions:			
Hot and arid (Desert type)**	☐	☐	☐
Hot and humid (Coastal)@	☐	☐	☐
Warm and humid (Coastal)#	☐	☐	☐
Cold (High altitude)+	☐	☐	☐
Others (specify)	☐	☐	☐
xxi. Cost saving	☐	☐	☐

Required Performance Characteristics	Test results available 1	Test results available 2	Test method availability 3
xxii. Time saving	☐	☐	☐
xxiii. Reduction in life cycle cost	☐	☐	☐
xxiv. Others (specify)	☐	☐	☐

2.6 List tests done on your product relating to the above (enclose results)

** eg Delhi, Jaipur, @ eg Chennai, Mumbai, Kozhicode, # eg Thiruvananthapuam, Puri, Tezpur, Silchar + eg Musoorie, Ootacamund, Srinagar, Shillong

3 PRODUCTION DATA

3.1 Quantum of actual production in the last 3 years and trend for next 3 years (Mention unit of quantity)

Year	Quantum of production	Rupee value

3.1.1 Unit and unit price _____ (Unit) _____ (Unit Price)

4. EXPERIENCE IN USE

4.1 Since when the product in use ? _____

List 3 major users: 1. _____

2. _____

3. _____

4.2 Product suitable for use in conditions obtained in:

Hot and arid (Desert type)**	Y	N
Hot and humid (Coastal)@	Y	N
Warm and humid (Coastal)#	Y	N
Cold (High altitude)+	Y	N

4.3 Product suited-specially suited (S*) for use in conditions obtained in:

Earthquake	Y	S*	N	
Flood	Y	S*	N	
Cyclone	Y	S*	N	
Heavy wind / storm	Y	S*	N	
Lashing rain	Y	S*	N	
Snow	Y	S*	N	
Fire	Y	S*	N	

** eg Delhi, Jaipur, @ eg Chennai, Mumbai, Kozhicode, # eg Thiruvananthapuam, Puri, Tezpur, Silchar + eg Musoorie, Ootacamund, Srinagar, Shillong

4.4 Has it been assessed by any user/organization ? Y N

If 'yes' list the organization(s)

_____
_____
_____
_____
_____

4.5 Indicate whether assessment was by lab testing or field trials

Lab testing / Field trials / Both

5. QUALITY ASSURANCE

5.1 Standards for the product (if they exist give number and title)

IS: ISO BS

ASTM Others (specify)

5.1.1 List below any additional properties, not covered / specified in the Specifications listed in 5.1 above, built in by you into the product

5.2 Have you formulated your company standards related to the product ?

For the raw materials	Y	N
For component	Y	N
For the final product	Y	N
Guiding manuals/ pamphlets for the use of the product (Attach, if you have)	Y	N

5.3 Are testing facilities available in the country.? Y N
If 'yes' list 2 organizations

_____

_____

5.4 Availability of test facilities with you No / Partial / Full

If 'No' or 'Partial' do you have access on regular basis to facilities for complete Testing Y N

5.5 Do you operate the BIS certification scheme (ISI mark) for the product for which you are applying ? Y N

Has BIS ever rejected your application and when? Y N

5.5.1 Does any other manufacturer of the product operate the BIS certification licence for ISI mark ? Y N

5.6 Do you use quality assurance methods eg. as in ISO 9000 family of standards ? | Y | N |

If 'yes' do you have a documented quality assurance system ? | Y | N |

6 SOCIAL ASPECTS

6.1 Environmental aspects

Attach a brief note on the environmental aspects of your machine, if any
(For points that may be considered see 5 of Annex)

6.2 Energy consumption / conservation / efficiency

Attach a brief note on the Energy consumption / conservation / efficiency aspect of your product, if any
(For points that may be considered see 6 of Annex)

6.3 User benefits

Lowers cost of construction	Y	N
Speeds up construction considerably	Y	N
Reduces maintenance cost	Y	N
Reduces life-cycle costs	Y	N
Easy to maintain	Y	N
Easy replaceability	Y	N

6.4 Regulatory requirements

List Acts, Rules, Regulations relating to Town Planning ,Fire Safety, Environmental Protection and Control, Pollution Control, Building Bylaws etc of the central, state govt. and local bodies applicable to the product in manufacture ,installation and use.

6.5 Training needs

	Is specialized training needed for		Are training facilities Available?		
installing your product	Y	N	Y	N	
using the product	Y	N	Y	N	
maintaining the product	Y	N	Y	N	

Attach related manuals / pamphlets if available

7 SCOPE OF ASSESSMENT

What in your view the scope of assessment should be for your product?

8 ANY OTHER INFORMATION

Provide any additional information you may want to:

SEAL

Authorized signatory of applicant's organization with name, designation and date

1. Abbreviations:

NA	=	Not Applicable
CEO	=	Chief Executive Officer
IS	=	Indian Standards issued by BIS
ISO	=	ISO Standards issued by International Organisation for Standardization
BS	=	British Standard
ASTM	=	American Society for Testing and Materials.

2. To be submitted in duplicate.

ANNEX

Following information, if provided with your application would help in expediting the processing of your application:

Note: Item number given in brackets refers to the relevant item in the Preliminary Application Form

1 Flow chart of production / assembly / process (Item 2.4)

2 Test methods for additional properties built- in by you into the product (Item 5.1.1)

3 Indicate the test methods used / data collected for comparing energy consumption / conservation / efficiency giving the name of the organization which evaluated your product in these aspects (Item 6.2)

4 Indicate the results of any energy audit that you may have conducted to establish energy consumption aspects of your product (Item 6.2)

5 **6.1 Environmental aspects**

6.1.1 Do you use waste materials?	Y	N
6.1.2 Are any special requirements needed for disposal of the product after its life?	Y	N

6.1.3 Is the product recyclable?

Y	N

6.1.4 Pollution control:

Do you use pollution control measures in manufacture				for	Does your product require any pollution control systems while in use			
NA	Y	N		AIR	NA	Y	N	
NA	Y	N		NOISE	NA	Y	N	
NA	Y	N		WATER	NA	Y	N	
NA	Y	N		SOIL	NA	Y	N	
NA	Y	N		GREEN HOUSE EFFECT	NA	Y	N	
NA	Y	N		OZONE LAYER DEPLETION	NA	Y	N	

6.1.5 Please provide any additional information you may have on environmental friendliness of your product (Attach notes as Annex, if space is insufficient)

6 **6.2 Energy consumption / conservation / efficiency**

6.2.1 Compare the energy consumption / conservation / efficiency (qualitatively / quantitatively) with other similar products for the same end use, both in the manufacture of the product and the use of the product

Reduced energy inputs/consumption over other products which perform the same function

In manufacture					In Use			
NA	Y	N		ELECTRICITY	NA	Y	N	
NA	Y	N		COAL	NA	Y	N	
NA	Y	N		PETROLEUM BASED FUEL	NA	Y	N	

Others (Specify)

6.2.2 Conservation (compared to similar product for the same end use)

In manufacture					In use of the product			
NA	Y	N		WATER	NA	Y	N	
NA	Y	N		SOIL	NA	Y	N	

Others (Specify)

List of Performance Appraisal Certificates (PAC) Issued

S. No.	Name of Firm	Product/System	PAC No.	Date of Issue
1	Kutty Flush Doors & Furniture Ltd, Chennai	HDF Board Empanelled Eco-friendly Solid Core Door Shutter	1/2003	04.07.2003
2	Kutty Flush Doors & Furniture Ltd, Chennai	Moulded Raised HDF Paneled Door Shutter	2/2003	04.07.2003
3	Susanji Udyog Pvt Ltd Hyderabad	Sakar Block Making Machine	3/2003	04.07.2003
4	Susanji Udyog Pvt Ltd Hyderabad	Sakar Pan Mixer	4/2003	04.07.2003
5	Gypcrete Building India(P) Ltd. Chennai	Gypcrete Building Panel /Rapidwall Panel	5/2003	31.01.2003
6	Reliance Industries Ltd, Mumbai	Recron 3S Fibres	6/2004	27.06.2005
7	Develolpment Alternatives N.Delhi	Vertical Shaft Brick Kiln Technology	5/2006	01.12.2006
8	Sintex Industries Ltd, Kalol Gujarat	Endura Door	1/2009	14.07.2009
9	Sintex Industries Ltd, Kalol Gujarat	Fomura Door	2/2009	14.07.2009
10	Sintex Industries Ltd, Kalol Gujarat	PVC Flush Door	3/2009	14.07.2009
11	Sintex Industries Ltd, Kalol Gujarat	PVC Profile Door	4/2009	14.07.2009
12	Sintex Industries Ltd, Kalol Gujarat	Frontura Door	5/2009	14.07.2009
13	Sintex Industries Ltd, Kalol Gujarat	Underground Water Storage Tank (SUMP)	6/2009	14.07.2009
14	Sintex Industries Ltd, Kalol Gujarat	Plastocrete Panel	7/2009	14.07.2009
15	Sintex Industries Ltd, Kalol Gujarat	Insulated Roof Panel	8/2009	14.07.2009
16	Sintex Industries Ltd, Kalol Gujarat	Polyethylene Underground Septic Tank	1001-C/2011	29.06.2011
17	Sintex Industries Ltd, Kalol Gujarat	Continuous Sandwich Panel	1002-S/2011	29.06.2011
18	Sintex Industries Ltd, Kalol Gujarat	Marshal Door	1003-C/2011	29.06.2011
19	Sintex Industries Ltd, Kalol Gujarat	uPVC Window	1004-C/2011	29.06.2011
20	Sintex Industries Ltd, Kalol Gujarat	FRP Manhole	1005-C/2011	29.06.2011
21	Sintex Industries Ltd, Kalol Gujarat	Formwork for Monolithic Concrete Construction	1006-A/2011	12.09.2011
22	Rashtriya Chemicals & Fertilizers Ltd. Mumbai	Glass Fibre Reinforced Gypsum Panel System	1008-S/2011	08.06.2011
23	Shree Marble Slurry Udyog, Udaipur	Marble Slurry Based Binder	1009-M/2011	01.08.2011
24	FACT-RCF Building Products Ltd, Kochi	Glass Fibre Reinforced Gypsum Panel System	1009-S/2012	31.05.2012
25	Synergy Thrislington, Mohali	Factory Made Fast Track Modular Building System	1011-S/2013	20.12.2013
26	BK Chemtech (I) Pvt Ltd, Italy/ Bangalore	Advanced Building System Emmedue	1010-S/2014	08.01.2014
27	Navin Fluorine Intl. Ltd., Mumbai	Fluorogypsum Based Anhydrite Binder	1012-M/2014	08.01.2014
28	Jindal Steel & Power Ltd., New Delhi	Speedfloor System	1013-S/2014	16.10.2014
29	JB Fabinfra Pvt. Ltd., Gurgaon	Light Gauge Framed Steel Structure	1014-S/2014	16.10.2014
30	Reliable Insupacks Pvt. Ltd., Greater Noida	Polystyrene Based Insulation Tile – Kooltile	1015-P/2014	14.11.2014
31	Japewa Engg. Pvt. Ltd., Chennai	Insulla Tiles	1016-P/2015	24.04.2015
32	Mutha Industries Pvt. Ltd., Mumbai	Bamboowood Flooring	1017-P/2015	24.04.2015
33	Beardsell Ltd., Chennai	Quick Build Panels	1019-S/2015	24.04.2015
34	Outinord Formworks Pvt. Ltd., Pune	Modular Tunnelform	1018-S/2015	21.07.2015
35	Jindal Steel & Power Ltd., Gurgaon	Reinforced EPS Core Panel System	1020-S/2015	16.11.2015
36	Shaival Reality Pvt. Ltd., Ahmedabad	SRPL Building System (Waffle-Crete)	1021-S/2015	16.11.2015
37	B N Precast Pvt. Ltd., Gandhinagar	Walltec Hollowcore Panel System	1022-P/2015	16.11.2015
38	Anjani Technoplast, Greater Noida	Plastic Honeycomb Toilet Structure	1023-P/2015	16.11.2015

S. No.	Name of Firm	Product/System	PAC No.	Date of Issue
39	Huliot Pipes & Fittings Pvt. Ltd., Vadodra	Soundproof Drainage Piping System	1024-P/2015	19.11.2015
40	M K S Infosolutions Pvt. Ltd., Manesar	Sismo Building Technology	1025-S/2016	08.04.2016
41	Worldhaus Construction Pvt. Ltd., Bangalore	Rapid panels	1026-S/2016	08.04.2016
42	Larsen & Toubro Ltd., Mumbai	Precast Large Concrete panel System	1027-S/2016	12.04.2016
43	Society for Development of Composites, Bangalore	LGSFS-ICP Technology	1028-S/2016	12.04.2016
44	Reliable Insupacks (P) Ltd., Greater Noida	Insulating Concrete Forms	1029-S/2017	13.012017
45	HIL Ltd., Hyderabad	Prefabricated Fibre Reinforced Sandwich Panels	1030-S/2017	13.01.2017
46	Schnell Home, Italy	Concrewall System	1031-S/2017	13.01.2017
47	Rising Japan Infra Pvt. Ltd., New Delhi	Rising EPS (Beads) Cement Panels	1032-S/2017	04.07.2017
48	FTS Buildtech Pvt. Ltd., Mumbai	Lost-in-place Formwork System: Plasmolite wall Panels	1033-S/2018	12.03.2018
49	FTS Buildtech Pvt. Ltd., Mumbai	Lost-in-place Formwork System: Plaswall Panel System	1034-S/2018	12.03.2018
50	Coffor Construction Technology Pvt. Ltd., Vadodra	Structural Stay-in-Place Formwork System	1035-S/2018	12.03.2018
51	Maiwir Ecotech Pvt. Ltd., Khammam (Telangana)	Monolithic Insulated Concrete System (MICS)	1036-S/2018	12.03.2018
52	Ideal Eco Environment System, Surat	Resin Bonded (Plastic waste) Tiles	1037-P/2018	12.03.2018
53	Kingspan Jindal Pvt. Ltd., Manesar	Continuous Sandwich (PUF) Panels with Steel Structure	1038-P/2018	30.08.2018
54	Covestro (India) Pvt. Ltd., Mah.	PIR Dry Wall Pre-Fab Panel System	1039-P/2018	30.08.2018
55	Robomatic Precon Pvt. Ltd., Hyderabad	Robomatic Hollowcore Concrete Wall Panels	1040-P/2018	30.08.2018
56	Bau Panel System India Pvt. Ltd., Pune	BauPanel System	1041-P/2018	04.09.2018
57	Bhargav Infrastructure Pvt., Surat	Flyash EPS Cement Sandwich Panels	1042-P/2018	14.11.2018
58	Pioneer Precast Solutions Pvt. Ltd., Chennai	K – Wall Panels	1043-P/2019	29.04.2019
59	Novel Assembler Pvt. Ltd, Mumbai	Stay-In Place PVC Wall Forms	1044-S/2019	29.04.2019
60	Visaka Industries Ltd., Secunderabad, Telangana	V-INFILL WALL (Light Weight EPS Wall)	1045-S/2019	29.04.2019
61	Urbanaac Infrastructures Pvt.Ltd., Ahmedabad	Precast Construction Technology	1046-S/2019	29.04.2019
62	Nano Living System Pvt. Ltd. (India), New Delhi	Nano Living System Technology	1047-S/2019	04.09.2019
63	Aap Ka Awas LLP, New Delhi	Integrated Hybrid Solution – ONE (IHS – ONE)	1048-S/2020	13.01.2020
64	Inovar Floors India Private Limited, Mumbai	Bamboowood Flooring	1049-P/2020	13.01.2020
65	Kalzen Realty Pvt. Ltd., Hyderabad	Permanent Wall Forms	1050-S/2020	13.01.2020
66	ESES Bio Wealth Pvt. Ltd. Distt. – Morigaon, Assam	Strand Woven Bamboo Wood Floor Tiles & Wall Panels, Door /Window Frames	1051-P/2020	13.01.2020
67	Apollo Tricoat Tubes Ltd., Ghaziabad, UP	Apollo Chaukhat Door And Window Frame Sections	1052-P/2020	13.01.2020
68	KAARA Décor Pvt. Ltd., New Delhi	Bamboowood Flooring & Wall Cladding	1053-P/2020	13.01.2020
69	Xylo Paints, Distt. Sonipat (Haryana)	Elastomeric Paintable Plaster	1054-P/2020	13.01.2020

Performance Appraisal Certificates Issued on Emerging Technologies/Systems

ENGINEERED FORMWORK SYSTEM	
1	Monolithic Concrete Construction System
2.	Modular Tunnel Form
STAY-IN-PLACE FORMWORK SYSTEM	
3.	Insulating Concrete Forms
4.	Monolithic Insulated Concrete System
5.	Structural Stay-in-place formwork system
6.	Lost-in-place formwork system- Plaswall Panel system
7.	Lost-in-place formwork system- Plasmolite Wall Panels
8.	Sismo Building Technology
9.	Glass Fibre Reinforced Gypsum Panel System
10.	Stay-In-Place PVC Wall Forms
11.	Permanent Wall Form (PVC)
PREFABRICATED SANDWICH PANEL SYSTEM	
12.	Advanced Building System – Emmedue
13.	Rapid Panels
14.	Reinforced EPS Core Panel System
15.	QuickBuild 3D Panels
16.	Concrewall Panel System
17.	Prefabricated Fibre Reinforced Sandwich Panels
18.	Rising EPS (Beads) Cement Panels
19.	Flyash EPS (Beads) Cement Sandwich Panels
20.	PIR Dry Wall Pre-Fab Panel System
21.	Baupanel System
22.	V-Infill Wall (Light Weight EPS Wall)
23.	Nano Living System Technology
LIGHT GAUGE STEEL STRUCTURAL SYSTEM	
24.	Light Gauge Steel Framed Structure (LGSF)
25.	Light Gauge Steel Framed Structure with Infill Concrete Panel Technology
PREFABRICATED STEEL STRUCTURAL SYSTEM	
26.	Factory Made Fast Track Modular Building System
27.	Speed Floor System
28.	Continuous Sandwich (PUF) Panels With Steel Structure
PRECAST CONCRETE CONSTRUCTION SYSTEM	
29.	SRPL Building System (Waffle-Crete)
30.	Precast Large Concrete Panel System
31.	Industrialized 3-S system using RCC precast with or without shear walls, columns, beams, Cellular Light Weight Concrete Slabs/Semi-Precast Solid Slab
32.	Walltec Hollowcore Concrete Panel
33.	K-Wall Panels
34.	Robomatic Hollowcore Concrete Wall Panels
35.	Urbanaac Precast Construction Technology
36.	Integrated Hybrid Solution - One

*The PACs can be downloaded from **www.bmtpc.org** to know technical details and other parameters of the products/ materials/technologies certified.*

About BMTPC

The Building Materials & Technology Promotion Council (BMTPC) was setup in 1990 as an inter-ministerial organisation under the Ministry of Housing & Urban Affairs to bridge the gap between laboratory research and field level application.

Vision

BMTPC to be world class knowledge and demonstration hub for providing solutions to all with special focus on common man in the area of sustainable building materials, appropriate construction technolo-gies & systems including disaster resistant construction.

Mission

To work towards a comprehensive and integrated approach for promotion & transfer of potential, cost-effective, environment-friendly, disaster resistant building materials and technologies including locally available materials from lab to land for sustainable development of housing.

Objectives

- *Building Materials & Construction Technologies* : To promote development, standardisation, mechanisation and large scale field application of innovative and emerging building materials and technologies in the construction sector.
- *Capacity Building and Skill Development*: To work as a Training Resource Centre for capacity building and promotion of good construction practices to professionals, construction agencies, artisans and marketing of building technologies from lab to land.
- *Disaster Mitigation & Management* : To promote methodologies and technologies for natural disaster mitigation, vulnerability & risk reduction and retrofitting/ reconstruction of buildings and disaster resistant planning for human settlements.
- *Project Management & Consultancy*: To undertake project management and consultancy services including appraisal, monitoring and third party inspection of housing projects under the various Central/State Schemes.

Building Materials & Technology Promotion Council
Ministry of Housing & Urban Affairs, Government of India
Core-5A, First Floor, India Habitat Centre, Lodhi Road, New Delhi-110003
Phone: +91-11-2463 8096; Fax: +91-11-2464 2849

@bmtpcdelhi bmtpc.mhua www.bmtpc.org info@bmtpc.org