



WITH YOU ALWAYS

Marine *Newslink*

January 2019



FEATURE ARTICLE

AAC

PHOTO(S) OF THE MONTH

Trucking challenges in India

BONUS ARTICLE

What affects the classification clause

BACK TO BASICS

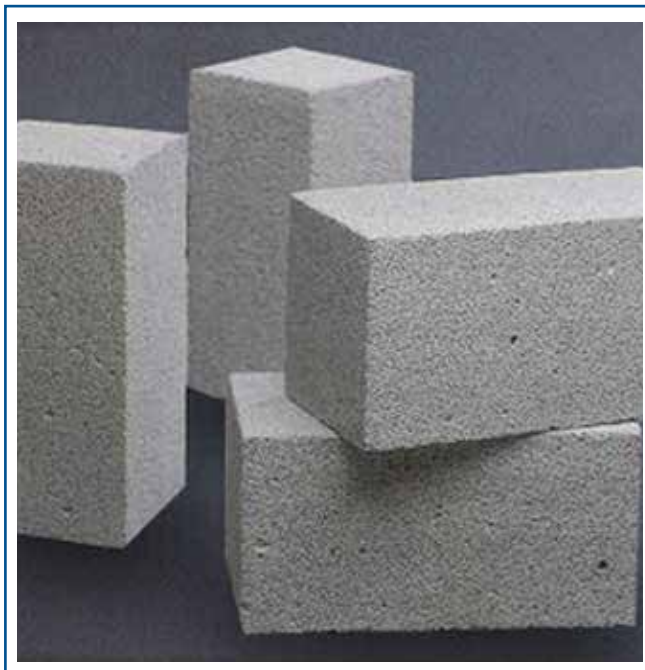
Question of the month

AAC

Autoclaved Aerated Concrete is a lightweight, load-bearing, high-insulating, durable building product, which is produced in a wide range of sizes and strengths. AAC blocks are three times lightweight as compared to traditional red bricks.

The Autoclaved Aerated Concrete (AAC) material was developed in 1924 in Sweden. It has become one of the most preferred building materials in Europe and is rapidly growing in many other countries around the world, including India. AAC is produced out of a mix of quartz sand and/or pulverized fly ash (PFA), lime, cement, gypsum, water and aluminium. AAC contains 60% to 85% air by volume. After mixing and moulding, it is autoclaved under heat and pressure to create its unique properties. AAC has excellent thermal insulation and acoustic absorption properties. AAC is fire and pest resistant and is economically and environmentally superior to the traditional structural building materials such as concrete, wood, brick and stone. Because of its excellent properties, AAC is used in many building constructions, for example in residential homes, commercial & industrial buildings, schools, hospitals, hotels and many other installation.

AAC offers incredible opportunities to increase building quality and at the same time reduce costs at the construction site.



AAC BLOCK

AAC Block is a unique and excellent type of building material due to its super heat, fire and sound resistance. AAC blocks are lightweight and offer ultimate workability, flexibility and durability. Main ingredients include quartz sand, water, quicklime, cement and gypsum. The chemical reaction due to the aluminium paste provides AAC its distinct porous structure, lightness, and insulation properties, hence, it is completely different as compared to other lightweight concrete materials.

When the forms are removed from the material, it is solid but still soft. It is then cut into either blocks or panels and placed in an autoclave chamber for 12 hours. During this steam pressure hardening process, when the temperature reaches 190° Celsius (374° Fahrenheit) and the pressure reaches 8 to 12 bars, quartz sand reacts with calcium hydroxide to form calcium silicate hydrate, which gives AAC its high strength and other unique properties. After the autoclaving process, the material is ready for immediate use on the construction site. Depending on its density, up to 80% of the volume of an AAC block is air. AAC's low density also accounts for its low structural compression strength. It can carry loads of up to 8 MPa (1,160 PSI), approximately 50% of the compressive strength of regular concrete. Because of the relatively low temperature used, AAC blocks are not considered fired brick but a lightweight concrete masonry unit.

The clean, flat surface accuracy & finishing reduces mortar joint requirement by almost 66%. This also assists in lesser need for plaster on AAC blocks, both inside & outside. Light-weight properties lead to lighter deadload on the building structure.



The use of AAC Blocks is continuously growing as an easy, convenient, safer, superior, and environment friendly green building material replacing commonly used conventional clay bricks. Many iconic buildings and architectural landmarks such as Burj Dubai, Taipei Trade Tower, Indianapolis University etc. have been built with extensive use of AAC Blocks in walls.

PROPERTIES



Fire Resistant: Depending upon the thickness of the Autoclaved Aerated Concrete (AAC) Blocks, they offer fire resistance from 2 hours up to 6 hours. These blocks are highly suitable for the areas where fire safety is of great priority.



Pest Resistant: Autoclaved Aerated Concrete (AAC) Block consist of the inorganic material in its constitution that helps preventing/avoiding termites, damages or losses.



Sound Proof: The porous structure of the AAC blocks results into enhanced sound absorption. The Sound Transmission Class (STC) rating of the AAC blocks is up to 45 db. Thus, AAC blocks have been the most ideal material for the construction of walls in auditoriums, hotels, hospitals, studios, etc.



Earthquake Resistant: The light weight property of the AAC blocks result into higher steadiness in the structure of the buildings. As the impact of the earthquake is directly proportional to the weight of the building, the building constructed using AAC blocks are more reliable and safer.



Faster Construction: As the AAC block is very easy to handle, manipulate and ordinary tools used for cutting wood such as the drill, band saws, etc. could be easily used to cut and align the AAC. Moreover, the AAC blocks come with larger sizes and fewer joints. This ultimately results in faster construction work as the installation time is significantly reduced due to fewer amounts of blocks and the masonry amount involved is also lowered resulting into reduced time-to-finish.



Long Lasting: AAC blocks are highly superior in terms of the strength. Higher level of strength of these blocks gives higher stability to the structure of the building. AAC is manufactured from non-biodegradable materials, which neither rot nor attract mould, keeping interiors clean and durable.



Cost Saving: AAC block weighs almost around 80% less as compared to the conventional red brick ultimately resulting into great reduction of deadweight. Further, the reduced deadweight results into reduction of the use of cement and steel which helps great in cost savings.



Versatile: AAC Blocks have an attractive appearance and is readily adaptable to any style of architecture. Almost any design can be achieved with AAC.



Non-toxic: Autoclaved Aerated Concrete products do not contain any toxic gas substances. The product does not harbour or encourage vermin.



Thermal Insulation: AAC block has exceptional thermal insulating qualities. The thermal conductivity of the AAC blocks helps in maintaining the inner temperature to be warm during the winters and cool during the summers which ultimately leads to savings in air conditioning load and consequently enhanced energy efficiency.



Moisture Resistance: Moisture from both external and internal sources can cause damage to buildings, therefore, moisture protection is a primary consideration. External moisture sources include rain and water from the soil. Internal moisture, usually in the form of humidity, can cause condensation on the surface of the walls as well as condensation inside the wall itself. AAC has a very porous structure which is characterized by “macro” pores. Macro pores are small air bubbles evenly distributed throughout the material. Therefore, absorption of water into the AAC material is minimal.



Environment Friendly: AAC is a non-toxic product which does not pollute the air, land or water. During the manufacturing process, waste from the cutting process is recycled back with raw materials and used again.

During construction, there is virtually no waste generated. The energy consumed in the production process is only a fraction compared to the production of other materials. The manufacturing process emits no pollutants and creates no by-products or toxic waste products. AAC is manufactured from natural raw materials. The finished product is thrice the volume of the raw materials used, making it extremely resource-efficient and environment-friendly.



Lightweight: One of the biggest features of AAC blocks is its light weight. These blocks possess a cellular structure created during manufacturing process. Millions of tiny air cells impart AAC blocks very light weight structure. Density of these lightweight blocks usually ranges between 550 - 650 kg/m³ making them lighter than water.



Perfect Size and Shape: The process of manufacturing AAC Blocks ensures constant and consistent dimensions. Factory finished blocks provide a uniform base for economical application of a variety of finishing systems. Internal walls can be finished by direct P.O.P., thus eliminating the need of plastering.



High Compressive Strength: The block has an average compressive strength of (3-4.5) N/mm² which is superior to most types of light weight blocks, 25% stronger than other products of the same density.



High Resistance to Water Penetration: The AAC products, because of their cellular and discontinuous micro structure are superior to the normal clay brick in resistance of water penetrability and thus the external surface of AAC walls provides superior resistance to moisture penetration than the traditional clay bricks.



STORAGE

AAC Blocks should be stacked on dry firm ground in regular tiers. For proper inspection of quality and ease in counting, the stacks can be of 50 bricks long and 10 bricks high and not more than 4 bricks in width, being placed on edge two at a time along the width of the stack. Clear distance between adjacent stacks shall be not less than 1 metre. Blocks of each truckload shall be put in one stack. Blocks of different types, such as, clay bricks, clay fly ash bricks, fly ash lime bricks, sand lime (calcium silicate) bricks should be stacked separately.

Blocks of different types should be stacked separately. Concrete blocks, stone blocks and other masonry blocks should be stored in stacks of such height as not to damage the blocks in the lower layers or topple. Blocks should be loaded or unloaded with care and should never be thrown or dumped. They shall be carried from the stack to the site of placement in manageable batches as and when necessary. The blocks should be preferably stored away from any oils & chemicals.





HANDLING

General perception for any concrete product is that it can be handled roughly. AAC blocks can withstand some abuse but the chipped corners or edges or hairline cracks can easily occur due to rough handling. Wherever palletised & being handled by forklifts, it must be ensured that forklifts are of adequate capacity. The forklift driver should be aware of the fact that though AAC blocks look heavy, they are marginally light in weight. There are numerous incidents where forklift have caused damages to cargo because the driver was not briefed about the cargo to be handled.

Blocks should be unloaded one at a time and stacked in regular tiers to minimize breakage and defacement. They should not be dumped at site. Blocks shall be placed close to the site of work so that least effort is required for their transportation. The date of manufacture of the blocks must be suitably marked.

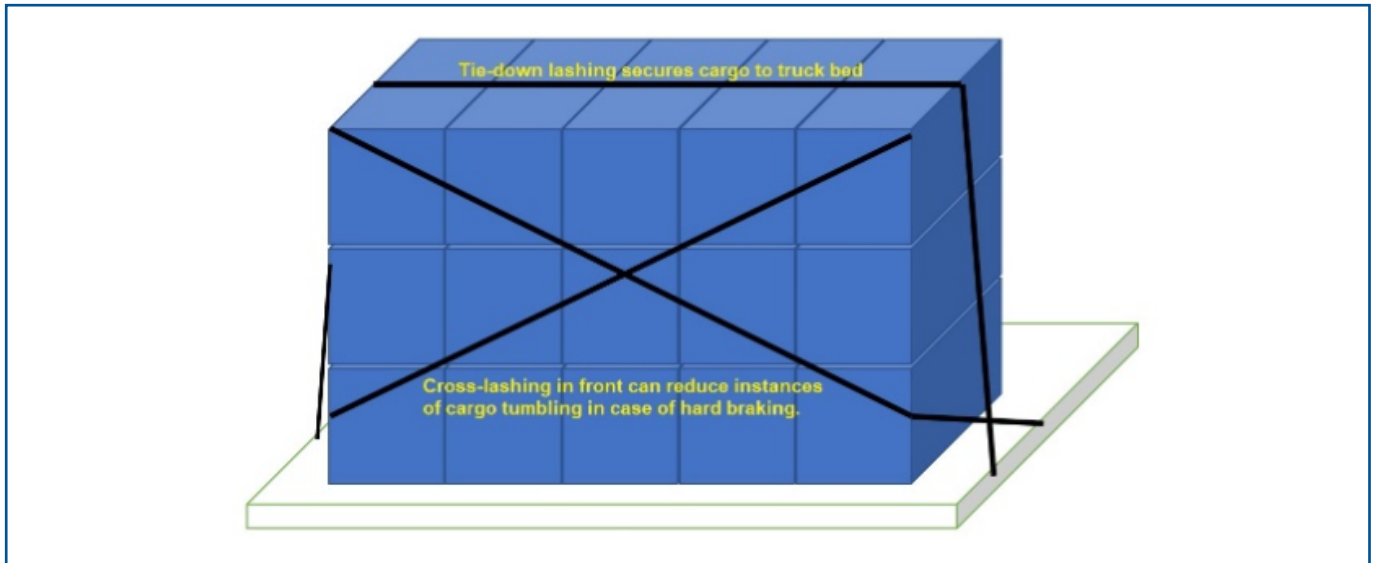


TRANSPORTATION

Due to their shapes, which primarily would be either square or rectangular, AAC blocks can be transported easily by truck, trailer, container and rail.

On trucks with full body structures, blocks may or may not require lashing but when loaded on half-body trucks or flatbed trailers. It becomes imperative to provide proper lashing. The stowage factor of blocks will determine the numbers of lashings that would be required. For square blocks, it is important that they are palletised and unitised together (ideally shrink wrapped with thick sheets). In pallet form, blocks require minimal lashings.

For lashing materials, it is important that flat nylon belts are used & that belts are dry at the time of lashing. The corners or blocks/pallets should be provided with cushioning under that belt. The continuous jerks & jolts can result in chaffing & loosening of lashing, which can result in cargo falling overboard & cause accidental hazards to other road users. Lashing must compensate for all the acceleration, turning & braking forces of the carrying vehicles. The front pallets should also be provided with cross-lashings to compensate for any cargo tumble during hard-braking



It must be ensured that the bed of trucks/trailer are in good condition & as flat as possible. Trucks with uneven bed will cause breakage to blocks during transit. In such case it is better to either throw soil on the bed or husk or cardboard sheets etc.

Being lighter in weight, their weight versus volume factor must be complied when loading on trucks/trailers. Over-stacking to dangerous heights should never be allowed. Pallets/cargo loaded towards rear end of truck should be double lashed.

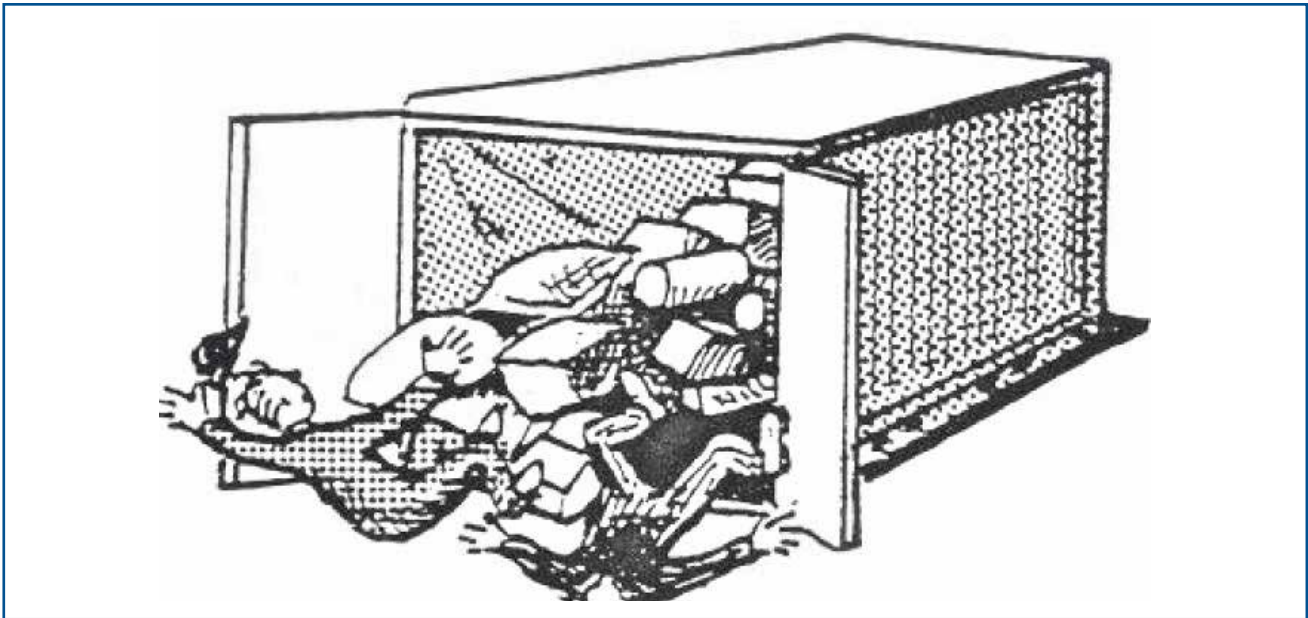
When transporting loose blocks, it is advisable to use full body trucks or half-body trucks as per the load-quantity but ensuring that the blocks are within the body-frame of truck. When transporting palletised blocks, usually square ones, it is advisable to use flat-bed trailer with correct lashing methods, by using nylon flat belts.



CONTAINERISATION

AAC blocks can be shipped in containers also and are usually shipped in 20 feet containers. Depending on their size & thus the stowage factor, most blocks can be tightly stuffed in the containers. However, it must be ensured that gaps, if any, on sides should be adequately stuffed with void-fillers, using CB sheets or similar materials. A warning should be posted on the door that the cargo may tumble out and hence door should be opened carefully.

The inherent qualities of AAC blocks has made them preferred construction materials in high-rise buildings as their use greatly reduces the block-weight of a building over an area.



The clean surface further reduces requirement for plastering, which again reduces maintenance & weight of the buildings. They have been around for almost 60 years now & have resulted in alternate use of fly-ash which otherwise was becoming a pollution hazard.



PHOTOS OF THE MONTH:

TRUCKING CHALLENGES IN INDIA



BONUS ARTICLE:

WHAT AFFECTS THE CLASSIFICATION CLAUSE

CLASSIFICATION SOCIETIES - DEFINITION

The following definition applies in respect of the membership of IACS.

A Classification Society is an organization which:

- (i) publishes its own classification rules (including technical requirements) in relation to the design, construction and survey of ships, and has the capacity to (a) apply, (b) maintain and (c) update those rules and regulations with its own resources on a regular basis.
- (ii) verifies compliance with these rules during construction and periodically during a classed ship's service life.
- (iii) publishes a register of classed ships.
- (iv) is not controlled by, and does not have interests in ship-owners, shipbuilders or others engaged commercially in the manufacturing, equipping, repair or operation of ships.
- (v) is authorized by a Flag Administration as defined in SOLAS Chapter XI-1, Regulation 1 and listed accordingly in the IMO database, Global Integrated Shipping Information System (GISIS).

CLASSIFICATION NOTATIONS

Classification notations are indicative of the specific rule requirements which have been met. Additional voluntary notations are offered by individual societies and may be selected by an owner wishing to demonstrate that the vessel conforms to a particular standard that may be in excess of that required for classification. Depending on the Classification Society, the classification notations are assigned to the ship according to ship type, service, navigation and/or other criteria which have been provided by the owner and/or builder, when requesting classification.

Classification notations assigned to a ship are indicated on the certificate of classification as well as in the Register of Ships published by the Society. These notations can be generalized by the following types which may be used in combination:

- main class symbol.
- construction marks.
- service notations with additional service features, as applicable.
- navigation notations.
- geographic notations.
- additional class notations.

SUSPENSION OF CLASS

Class may be suspended following a decision made by the society when one or more of the following occurs:

- when a ship is not operated in compliance with the rule requirements.
- when a ship proceeds to sea with less freeboard than that assigned.
- when the owner fails to request a survey after having detected defects or damages affecting the class.
- when repairs, alterations or conversions affecting the class are carried out without requesting the attendance of a surveyor.

In addition, class is automatically suspended:

- when the class renewal/special survey has not been completed by its due date or within the time granted in special circumstances for the completion of the survey, unless the ship is under attendance by the Society's surveyor(s) with a view to completion prior to resuming trading.

- when the annual or intermediate surveys have not been completed by the end of the corresponding survey time windows. Suspension of class with respect to the above cases will remain in effect until such time as the due surveys and any other survey deemed appropriate by the society have been completed.

In addition to the circumstances for which automatic suspension may apply, the class of a ship will be subject to suspension procedures following a decision of the Society:

- when a recommendation/condition of class is not dealt with within the time limit specified, unless it is postponed before the due date by agreement with the Society.
- when one or more other surveys are not held by their due dates - or the dates stipulated by the Society also taking into account any extensions granted.
- when, due to the nature of reported defects, the Society considers that a ship is not entitled to retain its class even on a temporary basis (pending necessary repairs or renewals, etc.)
- in other circumstances where the owner fails to submit the ship to a survey in accordance with a special requirement.

In all cases suspension will remain in effect until such time as matters are rectified and the class is reinstated, or class is withdrawn.

Depending on the Society's procedures, the suspensions of class which are not automatic may take effect either when they are decided by the Society or from the date when the conditions for suspension occurred. However, once the conditions for class suspension/withdrawal are met and before any decision by the Society can be taken, either because the Society is not aware of the circumstances (surveys dates, etc. are recorded but not systematically monitored) or because the decision is not yet taken, maintenance of class cannot generally be confirmed by the Society during this period.

WITHDRAWAL OF CLASS

The Society will withdraw the class of a ship when:

- requested by the owner.
- the class has been suspended for more than six months.
- the ship is reported as a constructive total loss and the owner does not advise his intention to repair the ship for re-instatement of class.
- the ship is reported lost.
- the ship will not trade further as declared by its owner.

Withdrawal of class takes effect from the date on which the circumstances causing such withdrawal occur or when it is decided.

THE MEMBERS OF IACS

The criteria for membership of IACS are given in the IACS Charter which can be found on the IACS website at 'IACS explained' www.iacs.org.uk/explained/default.aspx

The Members are:

- | | |
|-------------------------------------|--|
| • ABS American Bureau of Shipping | • KR Korean Register of Shipping |
| • BV Bureau Veritas | • LR Lloyd's Register |
| • CCS China Classification Society | • NK Nippon Kaiji Kyokai (ClassNK) |
| • CRS Croatian Register of Shipping | • PRS Polish Register of Shipping |
| • DNV GL DNV GL AS | • RINA RINA |
| • IRS Indian Register of Shipping | • RS Russian Maritime Register of Shipping |

The current membership of IACS, together with website links, can be found on the IACS website at 'IACS explained Members' www.iacs.org.uk/Explained/members.aspx

BACK TO BASICS

QUESTION OF THE MONTH: (Please submit your answers to vijaypal.singh@tataaig.com & Shioram.Balachandran@tataaig.com by 25th of each month)

An import consignment worth Rs. 1 cr was covered under 'All Risks + War + Strikes'. The INCO term was Ex-works, hence the coverage was from supplier's w/h in Germany to buyer's w/h in Bangalore. While issuing the policy the insurer incorporated inland clauses (ITC-A + SRCC) in addition to Institute clauses as inland movement was there from Chennai sea port to Bangalore.

The consignment got discharged at Chennai port on 24th Dec and after customs clearance reached Bangalore by road on 1st Jan. There was some disturbances in the city due to 'Cauvery dispute' and hence the transporter kept the goods in his godown. On 9th Jan, on the way to insured's w/h the truck met with an accident resulting in total loss of the cargo.

The insurance company declined the claim citing the 'duration clause of ITC-A:

DURATION

This insurance attaches from the time the goods leave the warehouse and/or the store at the place named in the policy for the commencement of transit and continues during the ordinary course of transit including customary transshipment, if any

- (i) until delivery to the final warehouse at the destination named in the policy, or
- (ii) in respect of transits by Rail only or Rail and Road, until expiry of 7 days after arrival of the railway wagon at the final destination railway station, or
- (iii) in respect of transits by Road only until expiry of 7 days after arrival of the vehicle at the destination town named in the policy

whichever shall first occur.

What is your take on this?

LAST MONTH'S QUESTION:

Insured had covered import consignment of used machinery from UK to India. It was FCL and INCO term was C&F Mumbai Port. Since it was 2nd hand machinery, coverage given was ICC-B + War + Strikes. In high seas due to heavy weather few containers fell off due to rolling of ship. One was our insured container. Is the claim payable?

LAST MONTH'S ANSWER:

No. The relevant coverage under ICC-B (1/1/09) is 'JETTISON OR WASHING OVERBOARD'. To claim the insured has to prove that the cargo is actually 'washed overboard'. In this case due to rolling of ship the cargo just got 'lost overboard'. Hence not covered.

CORRECT ANSWERS SENT BY: (In order of replies received)

Rajesh Singh Mor - CJ DARCL Logistics Ltd., Hisar
Rohan Lodaya - Insurance World, Vadodra
Lovlesh Kumar - Marsh India Insurance Brokers Pvt. Ltd., Gurgaon
Ashish Philip - Marsh India Insurance Brokers Pvt. Ltd., Chennai
Shruti Chaubey - Zoom Insurance Brokers Pvt. Ltd., Gurgaon
V Ganesan - Marsh India Insurance Brokers Pvt. Ltd., Chennai
Tapan Shah - Perfect Insurance Solution, Ahmedabad
Kritika Singh - Ideal Insurance Brokers Pvt. Ltd., Gurgaon
Bharat Bhushan - Optima Insurance Brokers Pvt. Ltd., New Delhi
Nishi Priya - Toyota Tsusho Insurance Broker India Pvt. Ltd., Gurgaon

TATA-AIG

Ramesh Prabhu - Broking & Corporate Relations - Coimbatore
Ruchi Sheth - SBU Head Broking, Corporate Office - Mumbai
Jinal Sukhadia - Commercial Lines - Surat
Jignesh Bhagatwala - Broker Relations, Surat

**PLEASE SEND YOUR REPLIES/ANSWERS TO ADDRESSES
GIVEN ON LAST PAGE OF THE MARINE NEWSLINK**

IF YOU HAVE ANY COMMENTS / FEEDBACK PLEASE SEND IT TO

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Vijay Pal Singh

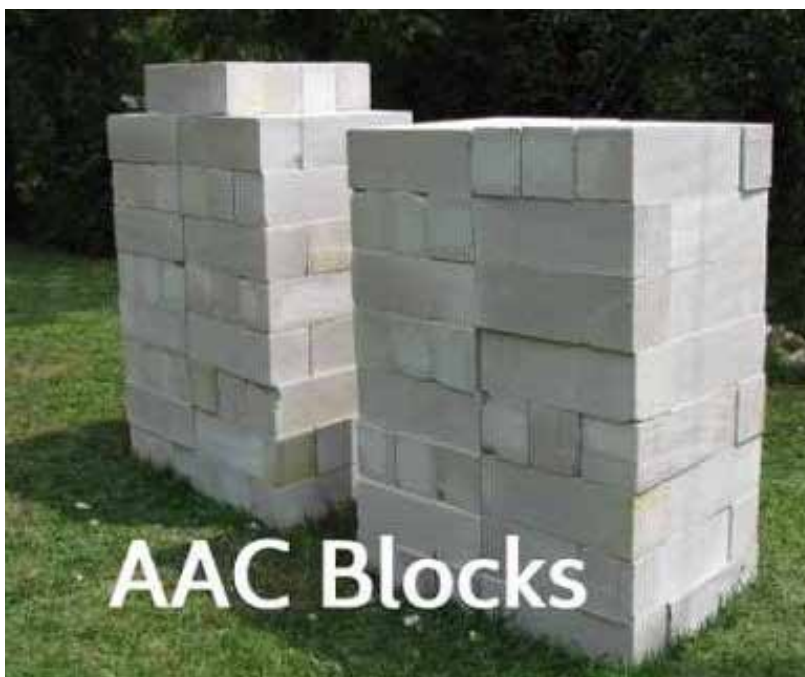
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