

उत्तर रेलवे/Northern Railway

प्रधान कार्यालय/Headquarters Office,
बड़ौदा हाऊस/Baroda House,
नई दिल्ली/New Delhi

सं./No. 10/ W/O/Policy/Building

दिनांक/Date 01 /0 4 /2016.

Chief Engineer's Circular No. 628

Sub: Ensuring supply of Quality Bricks in works.

More often than not, it is observed that bricks supplied for works are not to the desired standard of quality. Railway has been drawing lot of flak from the public for use of such bricks. Recently, this issue came up in IPWE National level Seminar held on 4th& 5th February 2016 in Delhi. It is also a fact that availability of good quality "Common burnt bricks of Class designation 7.5", in general, is a constraint.

Therefore, it necessitates to go for other substitutes available in the market. Some of the substitutes are-Common burnt clay bricks(Machine moulded)of class designation 12.5 conforming to IS:1077, Fly Ash Lime Bricks of class designation 10 conforming to IS:12894, Clay Fly Ash Bricks of designation 7.5, Burnt Fly Ash Clay Sewer Bricks conforming to IS:4885, etc. Items for use of these types of bricks, exist in Northern Railway's Unified Standard Schedule of Rates.

Specified physical characteristics of various types of bricks are given in the enclosed Annexure.

Hence, it is directed that wherever good quality of "Common burnt clay bricks of class designation 7.5 conforming to IS:1077" is not available in the vicinity, other substitutes, as mentioned above, may be adopted for brickwork. Under no circumstances, bricks used at site should be of quality/characteristics less than specified.

It is advised that bricks of reputed brands, accompanied with test certificate should only be brought to site. Further, tests at regular intervals, as laid down in the IS codes, should be conducted after receipt of bricks at site and before use.

All bricks used at site should be passed by the officer not below the rank of AXEN/ADEN, record of which should be maintained in the Bricks Passing Register, and it should be, from time to time, over seen by concerned Sr. DEN/DEN or Dy. CE(C).

It may also be noted that contractor should be discouraged to bring bricks of poor quality and not conforming to required specifications, to the work sites. In case, contractor is in a habit of offering such bricks to the AXEN/ADEN for passing, which are rejected often, a communication to the contractor in writing be made treating it as adverse performance on the part of the contractor. Further, if during inspection, by AXEN/ADEN/Sr. DEN/Dy. CE(C), it is found that bricks used in brick work, were not passed by Competent Authority, then in such case deduction for all such bricks used in the work shall be made and **penalty equivalent to the cost of such "Brick Work" shall also be imposed. Suitable modifications in the tender documents may be made accordingly.**

This has the approval of Pr. Chief Engineer, Northern Railway.

Enclosure: as above


01/4/16
(M. P. Singh)
Chief Engineer/P & D.

SPECIFIED PHYSICAL CHARACTERISTICS OF VARIOUS TYPES OF BRICKS

S.N.	Description of bricks	Sample reference of USSOR item no. for brick work.	Physical Characteristics as per relevant IS Code			
			Water Absorption	Average Wet Compressive strength	Efflorescence*	Warpage
1	Common burnt clay bricks (Machine moulded) of class designation 12.5 conforming to IS: 1077	051018 , 057101	Water absorption shall not be more than 20 % by weight.	Not less than 12.50 N/mm ²	Not more than 'Moderate'.	
2	Fly Ash Lime Bricks of class designation 10 conforming to IS:12894	055093	Water absorption shall not be more than 20 % by weight.	Not less than 10 N/mm ²	Not more than 'Moderate'.	
3	Clay Fly Ash Bricks of class designation 7.5	055076	Water absorption shall not be more than 20 % by weight.	Not less than 7.5 N/mm ²		
4	Burnt Fly Ash Clay Sewer Bricks conforming to IS:4885.	055111	Not more than 12%.	Not less than 17.5 N/mm ²	Not more than 'Slight'.	Not more than 2.5mm
5	Burnt clay perforated bricks (Machine moulded) conforming to IS:2222	051031	Water absorption shall not be more than 20 % by weight.	Not less than 7N/mm ²	Not more than 'Slight'.	Not more than 3%.

*** Efflorescence**

Nil: When there is no perceptible deposit of efflorescence.

Slight : When not more than 10% of the exposed area of brick is covered with a thin deposit of salts.

Moderate: When there is a heavier deposit than under 'slight' and covering up to 50% of the exposed area of the brick surface but unaccompanied by powdering or flaking of the surface.

Heavy: When there is a heavy deposit of salts covering 50 % or more of the exposed area of the brick surface but unaccompanied by powdering or flaking of the surface.

Serious: When there is a heavy deposit of salts accompanied by powdering and/ or flaking of the exposed surfaces.