



HAPPY NEW YEAR

2022

CENTRAL RESERVE POLICE FORCE

DECEMBER 2021



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- Abu Lawrence School
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3. Special article

WORKS
MAGAZINEWORKS DIRECTORATE
GENERALSPECIAL ARTICLE ON
MAINTENANCE & REPAIR OF BUILDINGS (PART - II)

Edition # 3

History of the Monument
buildings at ISA

Abu Lawrence School:

Constructed in 1849 Abu Lawrence School was founded by Major General Sir H.M. Lawrence. The school building including out offices was built at a cost of Rs.10,000/-.

“Never give in” was the motto of the school which was eventually closed down on 30th December 1950. Primarily the school was to provide refuge and practical education to orphans and soldiers children in a good climate.

On 15th September, 1948 a training college for Indian Police Service Officers was set up at Mount Abu. Initially, the college was housed in Army barracks. The premises of the school building were acquired for housing its offices, class rooms, library and Rajputana Hotel Estate for its officers Mess. After the shifting of Central Police Training College in its rechristened version as SVP National Police Academy to Hyderabad, the Central Reserve Police Force took over the complex to establish the Internal Security Academy on 1st February 1975.



Wilderness :

“The WILDERNESS” bungalow was constructed by Britishers during 1874 at an initial cost of Rs. 18,839/- and with subsequent additions in 1929, the total cost was Rs. 19,909/-. It was originally constructed for administrative requirements but was used as magistrate bungalow. Overlooking the world famous Nakki lake, this majestic building built with bricks and stones in mud and lime comprises 5,371 Sq. feet plinth area and is spread in 1.99 acres. It is surrounded by the governor’s bungalow in the north, Jaipur palace in the south, heritage market in the east and the nakki lake in the west.

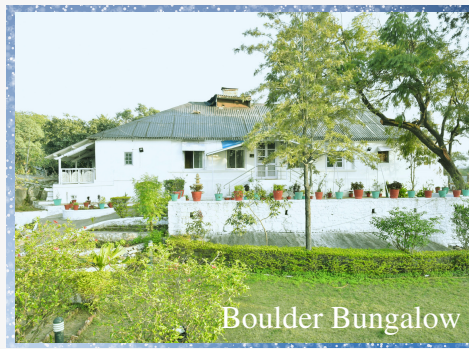


ABU LAWRENCE SCHOOL

Subsequently “wilderness” housed Senior officials of Abu Lawrence School and Senior Officers of central Police Training College on its establishment in 1950 and later of National Police Academy Training IPS Officers. The Bungalow was handed over to CRPF by CPWD in the year 2000 and now it is the official Residence of the IGP/Director, Internal Security Academy as “Flag House”.

Retreat :

Constructed in 1874 from the Imperial funds for agent to the Governor General of India. It used to be summer residence of A.G.G. Kathiawar built at cost of Rs. 33,291. The floor of this building was covered with world famous minton tiles. It was named The Retreat as it was used by A.G.G. Kathiawar to relax and recuperate away from the heat of Kathiawar. After independence the building was taken over by Govt. of India and was later used by staff of CPTC. After the establishment of ISA the building was used by ISA as officer’s mess and in the year .



Boulder Bungalow

2000 the building and property was transferred out to CRPF by CPWD

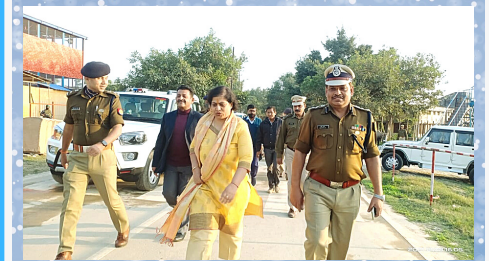
Boulder Bungalow:

The Boulder Bungalow” was constructed in the year 1875 at the cost of Rs 13,644/- .The bungalow is located in the area of 2.45 acres with the built up area of 538 sq mtrs. The bungalow has been built on top of the rock without much disturbing the natural lay of ground. The bungalow was named as assistant quarter and was leased to private tenants from time to time. After shifting of Academy to Mount Abu in 1975,the bungalow has been used as official accommodation of the senior officers. Initially the bungalow was used as official accommodation of Director of Academy. After shifting of Director to the Wilderness bungalow” in 1980,the bungalow has been used as official residence for DIG.

Important Events

Smt. Anupam Kulshreshtha IPS IG (W) Directorate General CRPF visited to review the ongoing works.

1. On 06.12.2021 visited Central sector, at Luckow
2. On 07.12.2021 visited G.C at Lucknow.
3. On 08.12.2021 visited 63 BN, at Ayodhya.



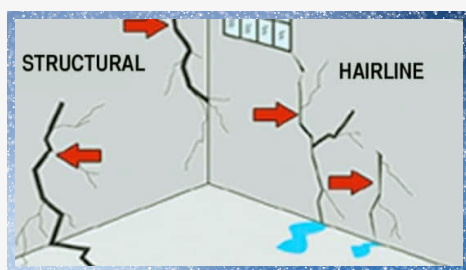
RETREAT BLDG



MAINTAINANCE AND REPAIR OF BUILDINGS PART - II

REPAIR OF CRACKS IN WALLS:

Cracks are signs of distress in structural and non-structural members caused due to separation of joints, development of fissures, shearing, separation of members built with different materials. Cracks may be at different locations like – vertical, horizontal, inclined, separation at the roof level just below the junction of RCC slab and masonry wall, in parapet, at junctions of RCC columns etc. They may be wide narrow or hairline and can be of varying depths. They are classified broadly as structural and non structural cracks; with structural cracks forming due to incorrect design faulty construction, and non structural cracks forming due to internal stresses.



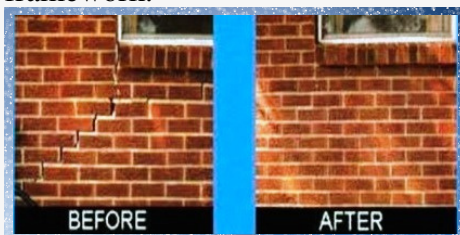
DIFFERENT METHODS OF REPAIR OF CRACKS :

1. Non structural or surface cracks: They do not require elaborate measures as they prevail on the surface only. After removal of the rendering, cracks if observed in masonry are cut v shaped up to a depth of 12-30 mm and filled with cement mortar 1:4 and then the surface is re-plastered.



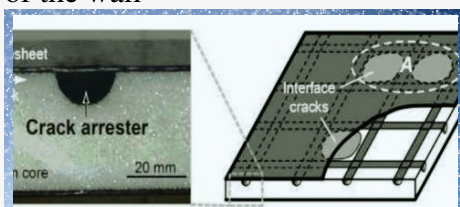
2. Very heavy cracks :

If there are very heavy cracks all over the external load bearing wall along with signs of settlement, the wall is considered beyond repair and needs replacement. The load carried by the wall is supported on props, the old wall is demolished part by part and then rebuilt either in brickwork or suitable RCC framework.



3. RCC band (crack arrestor):

An active crack in progress may be arrested by providing an RCC band along the line of crack. RCC band helps in checking further cracking and provide adequate strengthened sections for brickwork. The brickwork has to be opened on either side of the crack upto a depth of 100 to 150mm or one third the thickness of the wall; the exposed surface is roughened and cleaned, the reinforcement mesh is placed and filled with good concrete. The procedure is repeated on both sides of the wall



4. Cracks over arch openings : In old buildings we can see cracks over arch openings. It indicates that the arch has reached the limit of its load transfer mechanism. If the cracks are not severe they are repaired by driving metallic wedges from below.

5. Stitching: Stitching is done to repair cracks of brickwork.

6. Cracks observed at junctions of two different materials RCC columns and masonry walls

a. RCC columns and masonry wall - cracks appear due to difference in thermal coefficients of the two materials and can be prevented by inserting GI butterfly ties between RCC column and brickwork. The ties are provided at alternate layers of brickwork.

b. In buildings having this problem and water entering from the crack and causing dampness of the wall, the external plaster on the outer face 100mm on either side of the crack may be taken out and replastered after fixing chicken wire mesh over the crack. In all cases of junctions rendering should be done after fixing chicken wire mesh.

REPAIR OF PLASTERING WORKS DEFECTS WHICH OCCUR IN PLASTERING WORKS:

Blistering- this occurs due local relative expansion of the finishing coat.

Bond failure or loss of adhesion – this causes hollow patches, flaking of top coats, bulging or peeling of



Cracking – caused due to structural movement, exposure to direct sun or shrinkage.

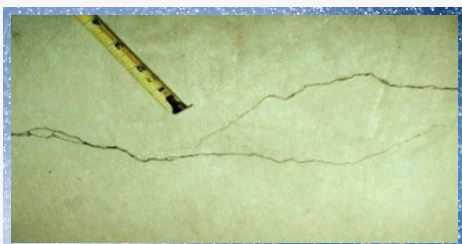


Crazing: caused due to tensile stress Efflorescence – caused due to presence of salts in masonry which dissolve in moisture entering in it Irregularity of surface - caused due to faulty workmanship. Recurrent surface dampness – due to presence of deliquescent salts in sands used in plastering.



CRACKS IN RENDERING AND PLASTER ALONGWITH REMEDIAL MEASURES:

1. Shrinkage cracks – shrinkage cracks in rendering plaster occur after the first dry spell. They may occur due to lack of bond with the masonry surface and is identified by tapping the affected surface which would produce a hollow sound. Crack due to sulphate action occur after 2 to 3 years from construction. Remedial measure would be to remove the plaster and renewing it after raking the joints 10 mm deep.



2. Cracks around door frames :

This type of cracks occur due to shrinkage of wooden frames or due

to loose fixing of door frames. Loose fixing causes vibration of frame and cracks develop at the junction. Cracks may also develop when the timber of the frame is not properly seasoned. As a preventative measure the timber should be properly seasoned and the frame should be rigidly fixed. As a remedial measure the junction of frame and masonry should be concealed by architraves.



REPAIR OF CRACKS IN RCC MEMBER OF A STRUCTURE NATURE AND TYPE OF CRACKS :

1. Random cracks in structure exposed to weather. These cracks occur after many years of construction maybe 15 to 20 years, they are likely to be caused due to shrinkage from carbonation of concrete.
2. Straight cracks in columns, beams and slabs – these cracks are parallel to reinforcement along with palling of cover. Exposure of reinforcement may occur at places.
3. Straight cracks in RCC sun shades and balconies – these cracks are straight and along the length occurring at intervals of 3 to 5 meters.
4. They are due to shrinkage along with thermal action.
5. Straight cracks in RCC slabs of long open verandahs – these cracks may occur at intervals of 6 to 8 meters parallel to the reinforcement. They are caused due to shrinkage and thermal contraction. These cracks are wider in winters.

REPAIRS FOR STRENGTHENING OF RCC STRUCTURAL MEMBERS:

1. Cracks in the RCC member –

The fine cracks are repaired by low and very low viscous epoxy resins and other synthetic resins materials either by brush application or by injection grouting. The wide cracks on the vertical surface are also repaired by injection methods

2. Cracks due to shear – These are inclined at 45 degrees with the horizontal. These cracks in beams can be avoided by providing additional shear reinforcements near the support where the shear stress is maximum

3. Cracks at mid span bottom in the beams –

Bottom of the beam are exposed to environment and if the cover to reinforcement is insufficient, then corrosion of reinforcement takes place. So, cracks due to corrosion of reinforcement appear at the bottom of the beam

4. Pressure grouting - this method is used when the concrete has become porous but has not decayed. To check this, holes are drilled in RCC member as per requirement and cement slurry or chemicals are grouted under pressure and forced in the holes to strengthen the structure

5. Cracks in foundation due to settlement –

the foundation has to be redesigned with a wider base or the foundation has to be taken on soil having adequate bearing capacity. Cement slurry grouting is often used to increase the bearing capacity of soil.



HAPPY NEW YEAR 2022



CRPF SONG:
देश के हम हैं रक्षक
जान भी देंगे बेशक
देश की रक्षा में

वीर जियाले हम हैं
शस्त्र संभाले हम हैं
देश की रक्षा में

देश का कण-कण ये जाने
द्रोही, भी दुश्मन भी माने
आंतरिक सुरक्षा है हमसे
हम रात दिन हैं ये जाने

जय जय भारत
जय सीआरपीएफ



2022 Calendar

CENTRAL GOVERNMENT HOLIDAYS LIST



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February						
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October						
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November						
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December						
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