

**CHAPTER 07: REINFORCED CEMENT CONCRETE (RCC) WORKS**

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalgonj)	Unit Rate (Rajshahi, Rangpur)
	<b>RCC WORKS: 1:2:4 (measured on gross concrete section) (f'c = 19 MPa, minimum f'cr = 26 MPa in nominal mix 1:2:4), with brick-chips (Sand of F.M. 1.2 and F.M. 2.2 in equal proportion)</b>					
07.1	<b>Reinforced cement concrete works</b> with minimum cement content relates to <b>mix ratio 1:2:4</b> having maximum water cement ratio = 0.45 and minimum f'cr = 26 MPa, satisfying a specified compressive strength f'c = 19 MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type - I, best quality sand [50% quantity of best local sand (F.M. 1.2) and 50% quantity of Sylhet sand or coarse sand of equivalent F.M. 2.2] and 20 mm down well graded <b>picked jhama brick chips</b> conforming to ASTM C-33 including conducting necessary tests, breaking chips and screening, making and placing shutter in position maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing in standard mixer machine with hopper fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering).					
07.1.1	Individual & combined footing, pile cap, raft/mat, floor slab and foundation beam up to plinth level	cum	Tk. 8,673.00	Tk. 8,643.00	Tk. 8,521.00	Tk. 8,449.00
07.1.2	Pedestal, column, column capital, lift wall and wall up to ground floor	cum	Tk. 9,032.00	Tk. 8,996.00	Tk. 8,853.00	Tk. 8,781.00
07.1.3	Floor / roof slab, T-beam, L-beam and rectangular beam, tie beam, lintel, stair case slab and step etc. up to ground floor	cum	Tk. 8,817.00	Tk. 8,784.00	Tk. 8,654.00	Tk. 8,582.00
07.1.4	Cornice, railing, drop wall, louver, fins, sunshade, false ceiling, waffle and ribbed floor slab etc. up to ground floor	cum	Tk. 9,391.00	Tk. 9,350.00	Tk. 9,185.00	Tk. 9,113.00
	<b>RCC WORKS: 1:2:4 (measured on gross concrete section) (f'c = 22 MPa, minimum f'cr = 30.5 MPa in nominal mix 1:2:4), with stone chips (100% sand of F.M. 2.2)</b>					

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.2	<b>Reinforced cement concrete works</b> with minimum cement content relates to <b>mix ratio 1:2:4</b> having maximum water cement ratio = 0.40 and minimum $f_{cr} = 30.5$ MPa, satisfying a specified compressive strength $f_c = 22$ MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded <b>stone chips</b> conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing in standard mixer machine with hopper fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)					
07.2.1	Individual & combined footing, pile cap, raft/mat, floor slab and foundation beam up to plinth level	cum	Tk. 13,504.00	Tk. 13,670.00	Tk. 12,724.00	Tk. 12,340.00
07.2.2	Pedestals, column, column capital, lift wall and RCC wall up to ground floor	cum	Tk. 13,863.00	Tk. 14,023.00	Tk. 13,056.00	Tk. 12,671.00
07.2.3	Floor / roof slab, T-beam, L-beam and rectangular beam, tie beam, lintel, stair case slab and steps etc. up to ground floor	cum	Tk. 13,648.00	Tk. 13,811.00	Tk. 12,857.00	Tk. 12,472.00
07.2.4	Cornice, railing, drop wall, louver, fins, sunshade, false ceiling, waffle and ribbed floor slab etc. up to ground floor	cum	Tk. 14,223.00	Tk. 14,377.00	Tk. 13,388.00	Tk. 13,003.00
	<b>RCC WORKS: 1:1.5:3 (measured on gross concrete section)</b> ( $f_c = 25$ MPa, minimum $f_{cr} = 33.5$ MPa in nominal mix 1 : 1.5 : 3), with stone chips (100% sand of F.M. 2.2)					
07.3	<b>Reinforced cement concrete works</b> with minimum cement content relates to <b>mix ratio 1:1.5:3</b> having maximum water cement ratio = 0.40 and minimum $f_{cr} = 33.5$ MPa, satisfying a specified compressive strength $f_c = 25$ MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded <b>stone chips</b> conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper, fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)					
07.3.1	Individual & combined footing, pile cap, raft/mat, floor slab and foundation beam up to plinth level	cum	Tk. 13,842.00	Tk. 14,000.00	Tk. 13,095.00	Tk. 12,728.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.3.2	Pedestals, column, column capital, lift wall and RCC wall up to ground floor	cum	Tk. 14,201.00	Tk. 14,353.00	Tk. 13,427.00	Tk. 13,060.00
07.3.3	Floor / roof slab, T-beam, L-beam and rectangular beam, tie beam, lintel, stair case slab and steps etc. upto ground floor	cum	Tk. 13,986.00	Tk. 14,141.00	Tk. 13,228.00	Tk. 12,861.00
07.3.4	Cornice, railing, drop wall, louver, fins, sunshade, false ceiling, waffle and ribbed floor slab etc. up to ground floor	cum	Tk. 14,561.00	Tk. 14,707.00	Tk. 13,759.00	Tk. 13,392.00
	<b>RCC WORKS : 1:1.25:2.5 ( measured on gross concrete section)</b> <b>(f<sub>c</sub> = 32 MPa, minimum f<sub>cr</sub> = 40.5 MPa in nominal mix 1 : 1.25 : 2.5)With Stone Chips and Admixture (Type-G)</b> <b>(100% sand of F.M. 2.2)</b>					
07.4	<b>Reinforced cement concrete works</b> with minimum cement content relates to <b>mix ratio 1:1.25:2.5</b> having maximum water cement ratio = 0.40 and minimum f <sub>cr</sub> = 40.5 MPa, satisfying a specified compressive strength f <sub>c</sub> = 32 MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa)/ ASTM-C 150 Type – I, and adding approved high range water reducing admixture of complying specific type (generally be Type-G) under ASTM-C 494, best quality coarse sand [Sylhet sand or coarse sand of equivalent F.M. 2.2], 20 mm down well graded crushed <b>stone chips</b> conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), including conducting necessary tests, screening sand through proper sieves, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper and fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Doses of admixture to be fixed in consultation with design office) (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering).					
07.4.1	Individual & combined footing, pile cap, raft/mat, floor slab and foundation beam up to plinth level	cum	Tk. 14,143.00	Tk. 14,295.00	Tk. 13,421.00	Tk. 13,067.00
07.4.2	Padestal, column, column capital, lift wall and RCC wall up to ground floor	cum	Tk. 14,503.00	Tk. 14,648.00	Tk. 13,753.00	Tk. 13,399.00
07.4.3	Floor / roof slab, T-beam, L-beam and rectangular beam, tie beam, lintel, stair case slab and steps etc. up to ground floor	cum	Tk. 14,287.00	Tk. 14,436.00	Tk. 13,554.00	Tk. 13,200.00
07.4.4	Cornice, railing, drop wall, louver, fins, sunshade, false ceiling, waffle and ribbed floor slab etc. up to ground floor	cum	Tk. 14,862.00	Tk. 15,002.00	Tk. 14,085.00	Tk. 13,731.00
	<b>RCC WORKS: 1:1:2 (measured on gross concrete section)</b> <b>(f<sub>c</sub> = 40 MPa, minimum f<sub>cr</sub> = 50 MPa in nominal mix 1 : 1 : 2) With stone chips and admixture (Type-G)</b> <b>(100% sand of F.M. 2.2)</b>					

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.5	<b>Reinforced cement concrete works</b> with minimum cement content relates to <b>mix ratio 1:1:2</b> having minimum $f_{cr} = 50$ Mpa, satisfying a specified compressive strength $f_c = 40$ MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, and adding approved high range water reducing admixture of complying specific type (generally be Type-G) under ASTM-C 494, best quality coarse sand [Sylhet sand or coarse sand of equivalent F.M. 2.2], 20 mm down well graded crushed <b>stone chips</b> conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper and fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete approved and accepted by the Engineer-in-charge. (Doses of admixture to be fixed in consultation with design office) (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)					
07.5.1	Individual & combined footing, pile cap, raft/mat and foundation beam up to plinth level	cum	Tk. 14,624.00	Tk. 14,768.00	Tk. 13,935.00	Tk. 13,599.00
07.5.2	Pedestal, column, column capital, lift wall and RCC wall upto ground floor	cum	Tk. 14,984.00	Tk. 15,121.00	Tk. 14,267.00	Tk. 13,931.00
	<b>Fair-faced RCC WORKS: 1:1.5:3 (measured on gross concrete section)</b> ( $f_c = 25$ MPa, minimum $f_{cr} = 33.5$ MPa in nominal mix 1:1.5:3) (100% sand of F.M. 2.2)					
07.6	<b>Cast-in-place fair-faced concrete works</b> with $f_{cr}=33.5$ Mpa and $f_c=25$ Mpa at 28 days on standard cylinders by using 75% of OPC and 25% of white cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2, 20 mm down and well graded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification) at <b>mix ratio of 1:1.5:3</b> , adding coloring pigment admixture (satisfying ASTM C979) as per architectural design, conforming to the standard practice of code ACI/BNBC/ASTM including conducting necessary tests, screening sand and chips through proper sieves, washing, making and placing shutter in position maintaining true to plumb, making shutter water tight properly, placing reinforcement in position, including pouring of concrete in form, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)					
07.6.1	For column, wall, beam, slab, drop wall, cornice etc. up to ground floor	cum	Tk. 17,381.00	Tk. 17,522.00	Tk. 16,558.00	Tk. 16,190.00
	<b>RCC WORKS: batch mix/machine mix with approved mix design, well graded stone chips (100% sand of F.M. 2.2) and required admixture</b>					

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07.7.1	<p><b>Reinforced cement concrete works from batch mix/machine mix</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 33.5</math> MPa, satisfying a specified compressive strength <math>f_c = 25</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494 (Doses to be applied as per Manufacturer's Guideline), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 385 kg/ cum), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 14,992.00	Tk. 15,158.00	Tk. 14,290.00	Tk. 13,923.00
07.7.2	<p><b>Reinforced cement concrete works from batch mix/machine mix</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 40.5</math> MPa, satisfying a specified compressive strength <math>f_c = 32</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494 (Doses to be applied as per Manufacturer's Guideline) making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 445 kg/ cum), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 15,372.00	Tk. 15,532.00	Tk. 14,695.00	Tk. 14,341.00

Handwritten signatures and initials in blue ink are present below the table, including a large signature on the left and several smaller initials and marks across the bottom.



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07.7.3	<p><b>Reinforced cement concrete works from batch mix/machine mix</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 50</math> MPa, satisfying a specified compressive strength <math>f_c = 40</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type - I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494 (Doses to be applied as per Manufacturer's Guideline), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 500 kg/ cum), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 15,650.00	Tk. 15,803.00	Tk. 15,003.00	Tk. 14,665.00
07.7.4	<p><b>Reinforced cement concrete works from batch mix/machine mix</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 60</math> MPa, satisfying a specified compressive strength <math>f_c = 50</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type - I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494 (Doses to be applied as per Manufacturer's Guideline), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content (minimum 500 kg/ cum) and micro silica (minimum 25 kg/ cum) as per approved design mix, including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 18,111.00	Tk. 18,264.00	Tk. 17,464.00	Tk. 17,127.00

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	<b>RCC WORKS: from Ready-Mix Concrete plant with approved mix design, well graded stone chips (100% sand of F.M. 2.2) and required admixture</b>					
07.8.1	<p><b>Reinforced cement concrete works from Ready-Mix concrete</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 33.5</math> MPa, satisfying a specified compressive strength <math>f_c = 25</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in appendix), High-range water reducing chemical admixture Type-G under ASTM C494(Doses to be applied as per Manufacturer's Guideline) making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 385 kg/ cum), carrying to the site of laying using Transit Mixer (considering setting time of concrete from plant to the site), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm (measured at site), casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 14,267.00	Tk. 14,434.00	Tk. 13,566.00	Tk. 13,199.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.8.2	<p><b>Reinforced cement concrete works from Ready-Mix concrete</b> with minimum cement content relates to approved mix ratio having minimum <math>f'_{cr} = 40.5</math> MPa, satisfying a specified compressive strength <math>f'_{c} = 32</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494(Doses to be applied as per Manufacturer's Guideline), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 445 kg/ cum), carrying to the site of laying using Transit Mixer (considering setting time of concrete from plant to the site), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm (measured at site), casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 14,647.00	Tk. 14,808.00	Tk. 13,971.00	Tk. 13,617.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.8.3	<p><b>Reinforced cement concrete works from Ready-Mix concrete</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 50</math> MPa, satisfying a specified compressive strength <math>f_c = 40</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type – I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494(Doses to be applied as per Manufacturer's Guideline) making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 500 kg/ cum), carrying to the site of laying using Transit Mixer (considering setting time of concrete from plant to the site), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm (measured at site), casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 14,926.00	Tk. 15,079.00	Tk. 14,279.00	Tk. 13,941.00

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.8.4	<p><b>Reinforced cement concrete works from Ready-Mix concrete</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 60</math> MPa, satisfying a specified compressive strength <math>f_c = 50</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to BDS EN-197-1-CEM-I, 52.5N (52.5 MPa) / ASTM-C 150 Type - I, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494(Doses to be applied as per Manufacturer's Guideline), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content (minimum 500 kg/ cum) and micro silica (minimum 25 kg/ cum) as per approved design mix, carrying to the site of laying using Transit Mixer (considering setting time of concrete from plant to the site), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to 150mm (measured at site), casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation to 4th floor)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 17,387.00	Tk. 17,540.00	Tk. 16,740.00	Tk. 16,402.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.8.5	<p><b>Reinforced cement concrete works for thick mat foundation from Ready-Mix concrete</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 33.5</math> MPa, satisfying a specified compressive strength <math>f_c = 25</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to CEM-II/B-M 42.5N (42.5MPa), best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494(Doses to be applied as per Manufacturer's Guideline), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 400 kg/ cum), carrying to the site of laying using Transit Mixer (considering setting time of concrete from plant to the site), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to150mm (measured at site), casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation: MAT)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 14,234.00	Tk. 14,397.00	Tk. 13,548.00	Tk. 13,189.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.8.6	<p><b>Reinforced cement concrete works for thick mat foundation from Ready-Mix concrete</b> with minimum cement content relates to approved mix ratio having minimum <math>f_{cr} = 40.5</math> MPa, satisfying a specified compressive strength <math>f_c = 32</math> MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to CEM-II/B-M 42.5N (42.5MPa), best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down wellgraded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), High-range water reducing chemical admixture Type-G under ASTM C494(Doses to be applied as per Manufacturer's Guideline), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; using machine batched and machine mixed concrete using cement content as per approved design mix (minimum 460 kg/ cum), carrying to the site of laying using Transit Mixer (considering setting time of concrete from plant to the site), including pumping of concrete using line pump or boom placer to site of laying, maintaining allowable slump of 100mm to150mm (measured at site), casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, cost of all materials and other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering &amp; centering). (Foundation: MAT)</p> <p>Note: The mix design shall be done from PWD testing laboratory or other recognized laboratories and be consulted with concerned design office.</p>	cum	Tk. 14,603.00	Tk. 14,759.00	Tk. 13,943.00	Tk. 13,597.00
	<p><b>RCC WORKS : 1:1.25:2.5 ( measured on gross concrete section)</b>  <math>(f_c = 30</math> MPa, minimum <math>f_{cr} = 38.5</math> MPa in nominal mix 1 : 1.25 : 2.5) With Stone Chips and Admixture (100% sand of F.M. 2.2) For Saline Zone</p>					

Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.9	<b>Reinforced cement concrete works with minimum cement content relates to mix ratio 1:1.25:2.5</b> having minimum $f_{cr} = 38.5$ MPa, satisfying a specified compressive strength $f_c = 30$ MPa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM, Cement conforming to CEM-II/B-M 42.5N (42.5MPa), and adding approved high range water reducing admixture of complying specific type (generally be Type-G or F) under ASTM-C 494, best quality coarse sand [Sylhet sand or coarse sand of equivalent F.M. 2.2], 20 mm down well graded crushed stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), including conducting necessary tests, screening sand through proper sieves, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper and fed by standard measuring boxes or in batching plant, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Doses of admixture to be fixed in consultation with design office) (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)					
07.9.1	Individual & combined footing, pile cap, raft/mat, floor slab and foundation beam up to plinth level	cum	Tk. 14,815.00	Tk. 14,967.00	Tk. 14,093.00	Tk. 13,739.00
07.9.2	Padestal, column, column capital, lift wall and RCC wall up to ground floor	cum	Tk. 15,174.00	Tk. 15,320.00	Tk. 14,425.00	Tk. 14,071.00
07.9.3	Floor / roof slab, T-beam, L-beam and rectangular beam, tie beam, lintel, stair case slab and steps etc. up to ground floor	cum	Tk. 14,589.00	Tk. 14,739.00	Tk. 13,856.00	Tk. 13,502.00
07.9.4	Cornice, railing, drop wall, louver, fins, sunshade, false ceiling, waffle and ribbed floor slab etc. up to ground floor	cum	Tk. 15,164.00	Tk. 15,304.00	Tk. 14,387.00	Tk. 14,033.00
07.10	Added rate for RCC works/fair-faced concrete works (materials, consumables and laying/placing concrete) in column, column capital, lift wall & wall, T- beam, L-beam, rectangular beams, floor / roof slab, cantilever slab, waffle slab and drop panels where the free height of the structure exceeds 4 meter (rate is considered for each additional meter height)	cum	Tk. 340.00	Tk. 335.00	Tk. 312.00	Tk. 312.00
07.11.1	<b>Added rate for RCC work/fair-faced work in additional floor: concrete</b>	cum	Tk. 93.00	Tk. 93.00	Tk. 93.00	Tk. 93.00
07.11.2	<b>Added rate for RCC work in additional floor: concrete (concrete from batching or Ready-Mix Plant)</b>					
07.11.2.1	Add for each cum of concrete from 5th floor to 14th floor:	cum	Tk. 19.00	Tk. 19.00	Tk. 19.00	Tk. 19.00
07.11.2.2	Add for each cum of concrete above 15th floor:	cum	Tk. 47.00	Tk. 47.00	Tk. 47.00	Tk. 47.00
	<b>FORM WORK (Steel)</b>					
07.12	<b>Centering and shuttering, including strutting, propping</b> etc. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 16 BWG, angles of minimum size 40 mm x 40 mm x 5 mm, flat bars etc.) and removal of form for:					
07.12.1	Individual and combined footing	sqm	Tk. 582.00	Tk. 579.00	Tk. 568.00	Tk. 568.00
07.12.2	In raft/mat/floor slab up to plinth level	sqm	Tk. 587.00	Tk. 584.00	Tk. 571.00	Tk. 571.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.12.3	Foundation beam	sqm	Tk. 493.00	Tk. 492.00	Tk. 486.00	Tk. 486.00
07.12.4	Pedestal, column, column capital, lift wall and wall up to ground floor	sqm	Tk. 522.00	Tk. 521.00	Tk. 517.00	Tk. 517.00
07.12.5	Tie beam and lintel: ground floor	sqm	Tk. 543.00	Tk. 541.00	Tk. 535.00	Tk. 535.00
07.12.6	T-beam, L-beam and rectangular beam etc up to ground floor	sqm	Tk. 574.00	Tk. 573.00	Tk. 569.00	Tk. 569.00
07.12.7	Floor and roof slab up to ground floor	sqm	Tk. 597.00	Tk. 596.00	Tk. 590.00	Tk. 590.00
07.12.8	Cornice, railing, drop walls, louver, fins etc.: ground floor	sqm	Tk. 487.00	Tk. 486.00	Tk. 479.00	Tk. 479.00
07.12.9	Sunshade, false ceiling: ground floor	sqm	Tk. 541.00	Tk. 540.00	Tk. 534.00	Tk. 534.00
07.12.10	Stair case slab and steps up to ground floor	sqm	Tk. 551.00	Tk. 550.00	Tk. 546.00	Tk. 546.00
07.12.11	Waffle or ribbed floor upto ground floor	sqm	Tk. 720.00	Tk. 719.00	Tk. 713.00	Tk. 713.00
07.12.12.1	Arches, domes, vaults up to 8m span (for single use)	sqm	Tk. 2,145.00	Tk. 2,144.00	Tk. 2,139.00	Tk. 2,139.00
07.12.12.2	Arches, domes, vaults up to 8 m span (for 2-times use)	sqm	Tk. 1,501.00	Tk. 1,501.00	Tk. 1,498.00	Tk. 1,498.00
07.12.12.3	Arches, domes, vaults up to 8 m span (for 3-times use)	sqm	Tk. 1,073.00	Tk. 1,072.00	Tk. 1,070.00	Tk. 1,070.00
07.12.12.4	Arches, domes, vaults up to 8 m span (for more than 3-times use)	sqm	Tk. 751.00	Tk. 751.00	Tk. 749.00	Tk. 749.00
07.13	Added rate for arches, domes, vaults exceeding 8 m span	sqm	Tk. 537.00	Tk. 536.00	Tk. 535.00	Tk. 535.00
07.14	Added rate for shuttering in circular work	sqm	Tk. 115.00	Tk. 115.00	Tk. 114.00	Tk. 114.00
07.15	Added rate for additional height in centering, shuttering where ever required with adequate bracing, propping etc. over a height of 4.0 m, for every additional height of 1 meter or part thereof.	sqm	Tk. 57.00	Tk. 57.00	Tk. 57.00	Tk. 57.00
07.16	Added rate for formwork/shuttering in additional floor	sqm	Tk. 18.00	Tk. 18.00	Tk. 16.00	Tk. 16.00
07.17	<b>Formwork for making 'fair-faced' surface</b> of the concrete as per design, drawing and direction of Engineer-in-charge. (The formwork must be rigid enough both in and out of plane, to make the concrete surface true to the designed shape and size by using necessary MS sheets of minimum 10 BWG, angles of minimum size 50 mm x 50 mm x 6 mm, flat bars, formwork releasing agent etc.)	sqm	Tk. 1,110.00	Tk. 1,108.00	Tk. 1,104.00	Tk. 1,104.00
	<b>FORMWORK (Wooden) for boundary wall, gate, centry post etc.</b>					
07.18	Centering and shuttering, including strutting, propping etc. and removal of form for:					
07.18.1	Individual and combined footings	sqm	Tk. 523.00	Tk. 520.00	Tk. 502.00	Tk. 502.00
07.18.2	Foundation beam	sqm	Tk. 475.00	Tk. 474.00	Tk. 458.00	Tk. 458.00
07.18.3	Padestals, column, wall	sqm	Tk. 526.00	Tk. 525.00	Tk. 508.00	Tk. 508.00
07.18.4	Tie beam & lintels	sqm	Tk. 521.00	Tk. 520.00	Tk. 502.00	Tk. 502.00
07.18.5	T-beam, L-beam and rectangular beam	sqm	Tk. 508.00	Tk. 507.00	Tk. 490.00	Tk. 490.00
07.18.6	Floor & roof slab	sqm	Tk. 561.00	Tk. 557.00	Tk. 552.00	Tk. 552.00
07.18.7	Cornice, railing, drop wall, louver, fins etc.	sqm	Tk. 459.00	Tk. 458.00	Tk. 445.00	Tk. 445.00
07.18.8	Sunshade, false ceiling	sqm	Tk. 471.00	Tk. 471.00	Tk. 459.00	Tk. 459.00
07.18.9	Stair case slab and steps	sqm	Tk. 457.00	Tk. 457.00	Tk. 445.00	Tk. 445.00

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Item No.	Description of Item	Unit	Unit Rate (Dhaka, Mymensingh)	Unit Rate (Chattogram, Sylhet)	Unit Rate (Khulna, Barisal, Gopalganj)	Unit Rate (Rajshahi, Rangpur)
07.19	Supply and use of <b>specified type chemical admixture</b> delivered from an authorized local agent or manufacturer, complying with the <b>ASTM C-494</b> requirements; conforming the current compliance of the admixture to specification requirements like physical properties, uniformity and equivalence in composition etc.; performance (water content, fresh concrete setting time and compressive strength) requirements, delivered in sealed water-tight containers confirming plainly marked product name & type under this specification, net weight and /or volume, manufacturing and expiry date, non aggressiveness to environment, aggregates and metals in concrete etc. and mixing the admixture in non pre-stressed cement concrete mixture in the field in accordance with manufacturers recommendation and instruction; providing safety provisions in all respects etc. all complete as per instruction and approved by the Engineer-in-charge. Dose (quantity in milli litres per 50 kg bag cement) and brand/origin/ manufacturer with respect to particular brand of cement and particular stock of aggregates and method of use to be determined by mix design / trial mix at the cost of contractor and approved by the Engineer. (Use of admixture is subjected to prior approval of design office)					
07.19.1	Supply and use of water <b>reducing chemical admixture</b> in concrete, complying <b>ASTM C-494 Type - A</b> of approved brand / origin / manufacturer and supplied by only manufacturer's authorised dealer with certificate of origin. The admixture is to reduce quantity of mixing water required for normal workability and to maintain low water-cement (W/C) ratio, for improved concrete quality assurance.	liter	Tk. 205.00	Tk. 204.00	Tk. 203.00	Tk. 203.00
07.19.2	Supply and use of <b>retarding chemical admixture</b> in concrete, complying <b>ASTM C-494 Type - B</b> of approved brand/origin/manufacturer and supplied by only manufacturer's authorised dealer with certificate of origin. The admixture for retarding setting time of concrete, there by reducing shrinkage in concrete specially for concrete laid in thick layers and intended delayed construction for improved construction joints, re-concreting etc.	liter	Tk. 209.00	Tk. 209.00	Tk. 209.00	Tk. 209.00
07.19.3	Supply and use of <b>accelerating chemical admixture</b> in concrete, complying <b>ASTM C-494 Type - C</b> of approved brand/origin/manufacturer and supplied by only manufacturer's authorised dealer with certificate of origin. An admixture that is to accelerate the setting time and early strength gain of concrete.	liter	Tk. 147.00	Tk. 147.00	Tk. 147.00	Tk. 147.00
07.19.4	Supply and use of <b>water-reducing and retarding chemical admixture</b> in concrete, complying <b>ASTM C-494 Type - D</b> of approved brand/origin/manufacturer and supplied by only manufacturer's authorised dealer with certificate of origin. The admixture to reduce the quantity of mixing water required to produce concrete of given consistency, i.e. low water-cement (W/C) ratio and intend to retard setting time of concrete, specially for layered, thick laid concrete etc.	liter	Tk. 270.00	Tk. 270.00	Tk. 270.00	Tk. 270.00

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