

APPLYING MARKUP IN CCS

Category Candy
 Document Number TN0051
 Software version 1.08
 Application CANDY
 Create Date 16 July 2004
 Revision Date 15 November 2004
 Document Version Final
 Author Thabang Chitja
 Support support@ccsa.com

INTRODUCTION

This TechNote describes Marking Up a bill of quantities as well as viewing and interpreting that Mark Up.

At tender stage the estimator prices the bill item nett rates using worksheets. Applied markup is then added to the nett rates in order to calculate the gross rates. i.e.

$$\text{NETT RATE} + \text{APPLIED MARK UP} = \text{GROSS RATE}$$

VIEWING MARKUP IN THE BILL OF QUANTITIES

The layout of the bill of quantities with the relevant markup columns should be created in order to display the markup for each bill item, as depicted below.

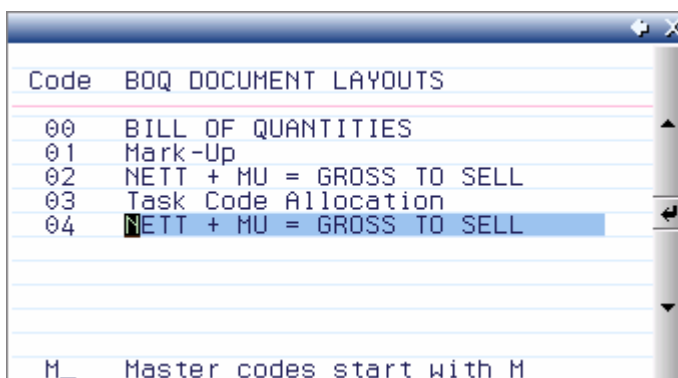
Page 1 Nett + Applied Mu = Gross

ITEM	OP CODE	DESCRIPTION	UNIT	BILLED QUANTITY	NETT RATE	NETT AMOUNT	MARKUP	GROSS RATE	GROSS AMOUNT	SELLING MARKUP %	SELLING RATE	BILLED SELLING AMOUNT
FORMWORK			LEVEL 1									
A	F2200	Vertical formwork to walls	m ²	1,180	19.37	22,856.60	0%	19.37	22,856.60			
B	F7301	Formwork not exceeding 150mm high	m	20	10.72	214.40	0%	10.72	214.40			
CONCRETE			LEVEL 1									
C	C2212	10MPa concrete in blinding 50mm thick	m ²	1,130	9.65	10,904.50	0%	9.65	10,904.50			
D	C341	20MPa concrete in foundations	m ³	90	143.22	12,889.80	0%	143.22	12,889.80			
E	C3520	25MPa concrete in walls	m ³	210	143.78	30,193.80	0%	143.78	30,193.80			
REINFORCEMENT			LEVEL 1									
F	R268	E/O 16mm HTS for bars of dia 25mm	t	60	22.50	1,350.00	0%	22.50	1,350.00			
G	R3150	Welded Mesh reinforcement Ref 395	m ²	1,690	7.90	13,351.00	0%	7.90	13,351.00			

To create the above layout, select Candy System -> Estimating Menu -> Bill of Quantities. On the next blank line enter a 2 digit code and description. i.e.

04 NETT + MU = GROSS TO SELL

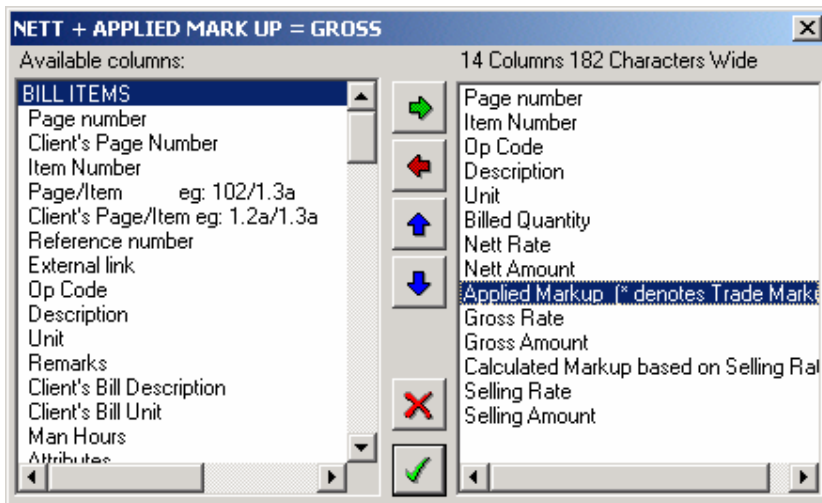
Hit enter on the new layout and the  SoftKey will appear.



Code	BOQ DOCUMENT LAYOUTS
00	BILL OF QUANTITIES
01	Mark-Up
02	NETT + MU = GROSS TO SELL
03	Task Code Allocation
04	NETT + MU = GROSS TO SELL

M_ Master codes start with M

Now click the **Alter Layout** SoftKey. Select the Applied Markup, Gross Rate, Gross Amount, Calculated Mark up based on Selling Rate, Selling Rate and Selling Amount columns using the green arrow key. Store the selection by clicking on the green tick.



Hit enter on the NETT + MU= GROSS TO SELL layout.

The following view of the bill should now be displayed on your screen.

ITEM	OP CODE	DESCRIPTION	UNIT	BILLED QUANTITY	NETT RATE	NETT AMOUNT	MARKUP	GROSS RATE	GROSS AMOUNT	SELLING MARKUP %	SELLING RATE	BILLED SELLING AMOUNT
FORMWORK				LEVEL 1								
A	F2200	Vertical formwork to walls	m ²	1,180	19.37	22,856.60	0%	19.37	22,856.60			
B	F7301	Formwork not exceeding 150mm high	m	20	10.72	214.40	0%	10.72	214.40			
CONCRETE				LEVEL 1								
C	C2212	10MPa concrete in blinding 50mm thick	m ²	1,130	9.65	10,904.50	0%	9.65	10,904.50			
D	C341	20MPa concrete in foundations	m ³	90	143.22	12,889.80	0%	143.22	12,889.80			
E	C3520	25MPa concrete in walls	m ³	210	143.78	30,193.80	0%	143.78	30,193.80			
REINFORCEMENT				LEVEL 1								
F	R268	E/O 16mm HTS for bars of dia 25mm	t	60	22.50	1,350.00	0%	22.50	1,350.00			
G	R3150	Welded Mesh reinforcement Ref 395	m ²	1,690	7.90	13,351.00	0%	7.90	13,351.00			

Markup can be applied by entering a markup percentage for each bill item. It is easier to markup the bill by using the facilities on the markup menu. Double click in the Applied Mark up column and the markup menu will be displayed. Alternatively from the Main Menu select Candy System -> Estimating Menu -> Finalisation -> Markup Menu.



TRADE MARKUP

Select Trade Markup. The Trade Markup document allows the input of a percentage markup against each of the defined trades.

T	DESCRIPTION	% MARKUP	F
E	EARTHWORKS		
C	CONCRETE	10.000	
F	FORMWORK	10.000	
R	REINFORCING	0.000	
B	BRICKWORK		
V	PAINTING		
Z	PROV SUMS		

Return to the bill of quantities and note the percentage in the applied markup column.

ITEM	OP CODE	DESCRIPTION	UNIT	BILLED QUANTITY	NETT RATE	NETT AMOUNT	MARKUP	GROSS RATE	GROSS AMOUNT	SELLING MARKUP %	SELLING RATE	BILLED SELLING AMOUNT
FORMWORK				LEVEL 1								
A	F2200	Vertical formwork to walls	m2	1,180	19.37	22,856.60	10.000*	21.31	25,145.80			
B	F7301	Formwork not exceeding 150mm high	m	20	10.72	214.40	10.000*	11.79	235.80			
CONCRETE				LEVEL 1								
C	C2212	10MPa concrete in blinding 50mm thick	m2	1,130	9.65	10,904.50	10.000*	10.62	12,000.60			
D	C341	20MPa concrete in foundations	m3	90	143.22	12,889.80	10.000*	157.54	14,178.60			
E	C3520	25MPa concrete in walls	m3	210	143.78	30,193.80	10.000*	158.16	33,213.60			
REINFORCEMENT				LEVEL 1								
F	R268	E/0 16mm HTS for bars of dia 25mm	t	60	22.50	1,350.00	0.000*	22.50	1,350.00			
G	R3150	Welded Mesh reinforcement Ref 395	m2	1,690	7.90	13,351.00	0.000*	7.90	13,351.00			

The asterisk(*) in the markup column denotes trade markup.

INDIVIDUAL OP CODES

Individual OpCodes (bill items) can be marked up by entering an Individual markup in the applied markup column.

Note the asterisk is removed to indicate the Opcode has individual, rather than trade markup.

Note the Opcode is marked up and not the bill item, i.e. if the opcode (F2200) appears on another bill page it will also receive the individual markup as applied on this bill page.

Individual markup overrides trade markup.

Note: If you apply an individual markup of Zero (0%) to an Opcode this will override the trade markup. To change from individual markup back to trade markup select **8 More keys** and **6 Trade markup**.

ITEM	OP CODE	DESCRIPTION	UNIT	BILLED QUANTITY	NETT RATE	NETT AMOUNT	MARKUP	GROSS RATE	GROSS AMOUNT	SELLING MARKUP %	SELLING RATE	BILLED SELLING AMOUNT
FORMWORK				LEVEL 1								
A	F2200	Vertical formwork to walls	m2	1,180	19.37	22,856.60	15.000	22.28	26,290.40			
B	F7301	Formwork not exceeding 150mm high	m	20	10.72	214.40	10.000*	11.79	235.80			
CONCRETE				LEVEL 1								
C	C2212	10MPa concrete in blinding 50mm thick	m2	1,130	9.65	10,904.50	10.000*	10.62	12,000.60			
D	C341	20MPa concrete in foundations	m3	90	143.22	12,889.80	10.000*	157.54	14,178.60			
E	C3520	25MPa concrete in walls	m3	210	143.78	30,193.80	10.000*	158.16	33,213.60			
REINFORCEMENT				LEVEL 1								
F	R268	E/0 16mm HTS for bars of dia 25mm	t	60	22.50	1,350.00	0.000*	22.50	1,350.00			
G	R3150	Welded Mesh reinforcement Ref 395	m2	1,690	7.90	13,351.00	0.000*	7.90	13,351.00			

Individual markup can also be cleared for all the bill items by selecting Candy System -> Estimating menu -> Finalisation -> Markup -> Clear individual markup.

RESOURCE TYPE RISK MARKUP

Additional markup can be applied to all the Opcodes by using resource type risk markup. Resource type risk markup allows the input of a percentage risk against each of the defined resource types (labour, plant, material, etc.).

T	DESCRIPTION	% MARKUP	UNIT	BILLED QUANTITY	NETT RATE	NETT AMOUNT	MARKUP	GROSS RATE	GROSS AMOUNT	SELLING MARKUP %	SELLING RATE	BILLED SELLING AMOUNT
L	LABOUR	5.000										
P	PLANT											
M	MATERIAL											
T	TEMP. MATS.											
O	OVERHEADS											
N	PROV. SUMS											
S	SUBCONTRACT											
	Formwork to walls		m2	1,180	19.37	22,856.60	15.000	23.06	27,210.80			
	not exceeding 150mm high		m	20	10.72	214.40	10.000x	12.07	241.40			
	LEVEL 1											
C	C2212	10MPa concrete in blinding 50mm thick	m2	1,130	9.65	10,904.50	10.000x	10.69	12,079.70			
D	C341	20MPa concrete in foundations	m3	90	143.22	12,889.80	10.000x	158.69	14,282.10			
E	C3520	25MPa concrete in walls	m3	210	143.78	30,193.80	10.000x	159.65	33,526.50			
xR	REINFORCEMENT		LEVEL	1								
F	R268	E/0 16mm HTS for bars of dia 25mm	t	60	22.50	1,350.00	0.000x	23.63	1,417.80			
G	R3150	Welded Mesh reinforcement Ref 395	m2	1,690	7.90	13,351.00	0.000x	7.93	13,401.70			

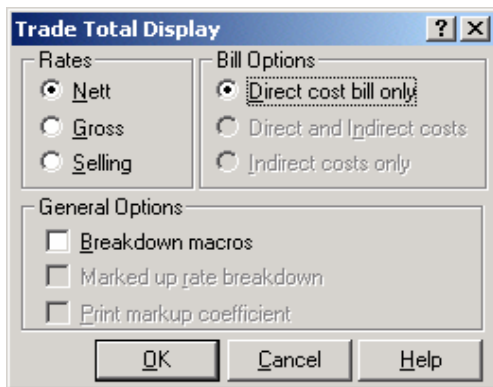
The job's Labour resource type has been marked up 5%. The gross rate has now increased for all the OpCodes that use labour resources. Note the reinforcing items have an applied markup of zero, yet the gross rate is higher than the nett rate. This is due to the resource type risk markup of 5% that has been added to the labour component of all the items which obviously includes the reinforcing items.

Regardless of the order of the markup and risk, risk is always added over and above the trade markup and individual markup. For example, an item which contains only the resource type of labour may have a nett rate of 100.00. After adding 10% by means of trade markup, this becomes 110.00. After adding a further risk of 10% to the labour type, the rate becomes 121.00.

TRADE TOTAL DISPLAY

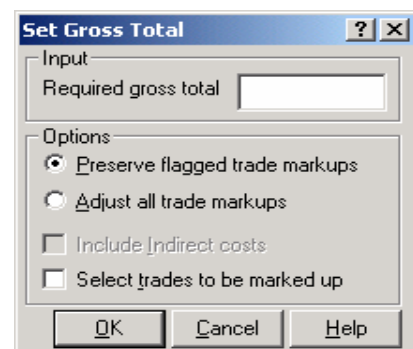
The total of the job can be displayed by using the  icon on the Candy tool bar or using Candy System -> Estimating Menu -> Finalisation -> Trade Total display.

Try the trade total display for Nett and Gross and view the results.



SET GROSS TOTAL

Select Candy System -> Estimating menu -> Finalisation -> Markup Menu -> Set Gross Total. The required gross total for the job may be set and the markup spread back across the job. Applied and individual markup is adjusted when setting the gross total.



Particular trades can be flagged and omitted when spreading the markup across the job.

T	DESCRIPTION	% MARKUP	F
E	EARTHWORKS		
C	CONCRETE	10.000	*
F	FORMWORK	10.000	
R	REINFORCING	0.000	
B	BRICKWORK		
V	PAINTING		
Z	PROV SUMS		

CALCULATED MARKUP AND SELLING RATES

CCS has an additional rate called the selling rate. The selling rate is not calculated from the nett rate and has the advantage that it can be rounded. Adjusting the nett or applied markup will not affect the selling rate. Any figure could be entered in the selling rate column, a facility exists to copy the gross rate to the selling rate column. Selling rates can also be locked. Double click in the selling rate column. Now copy the gross to the selling rate column and select the Lock Selling rates after transfer.

Transfer Gross to Selling [?] [X]

Page Selection

Select all pages/items

Start page: Item:

End page: Item:

Options

Overwrite existing selling rates

Lock selling rates after transfer

Do not copy zero gross rates

[OK] [Cancel] [Help]

Selling rates can be unlocked by selecting  and then shift + .

ROUNDING SELLING RATES

Select Candy System -> Estimating menu -> Pricing -> Selling rates

This displays the bill of quantities in Opcode order. The various SoftKeys can be used to manipulate the selling rates.

OP CODE	DESCRIPTION	UNIT	SELLING RATE	BILLED QUANTITY
SELLING MARKUP= 10.777%				
C2212	10MPa concrete in blinding 50MM thick	M2	10.69*	1,130.00
C341	20MPa concrete in foundations	M3	158.69*	90.00
C3520	25MPa concrete in walls	M3	159.65*	210.00
F2200	Vertical formwork to walls	M2	23.06*	1,180.00
F7301	Formwork not exceeding 150MM high	M	12.07*	20.00
R268	E/O 16MM HTS for bars of dia 25MM	t	23.63*	60.00
R3150	Welded Mesh reinforcement Ref 395	M2	7.93*	1,690.00

Help Gross to sell Zoom Round rates Multiply rates Denote macro sell rates More keys Clear selling rates Lock sell rate Worksheet Copy master rate

MACRO BILL ITEMS AND MARKUP

A macro bill worksheet provides a subsidiary or mini-bill in which Op Codes which make up the macro are entered to generate its nett rate.

ITEM	OP CODE	DESCRIPTION	UNIT	QUANTITY	NETT RATE	NETT AMOUNT
A	F2200	Vertical formwork to walls	M2	0.120	19.37	2.32
B	C341	20MPa concrete in foundations	M3	0.108	143.22	15.47
C	R3150	Welded Mesh reinforcement Ref 395	M2	2.200	7.90	17.38
D	M7883	Manhole cover Type 1	No	1	245.44	245.44

Despite any method of marking up a job, markup is attached to Op codes rather than bill items, for example, Op Code F2200 has been marked up by 15%, it should then be expected that anywhere in the Bill of Quantities where Op Code F2200 appears, it will reflect a mark up of 15%. The exception is when the Opcode is used within a macro, the Opcode inherits the macro's markup.

Op Code 9L8372 is a macro bill item made up of other bill items belonging to different trades which have been marked up individually or by trades. But since the macro bill item 9L8372 has a 0% markup, the bill items making up the macro automatically take up the macro's markup.

PLEASE NOTE: It therefore should be noted that a macro bill item's markup overrides all the markup of the Opcodes within the macro.

EM	OP CODE	DESCRIPTION	UNIT	ATTR	BILLED QUANTITY	NETT RATE	NETT AMOUNT	MARKUP	GROSS RATE
	✕F	FORMWORK	LEVEL		1				
	F2200	Vertical formwork to walls	M2	H	1,180	19.37	22,856.60	15.000*	22.28
	F7301	Formwork not exceeding 150MM high	M	H	20	10.72	214.40	10.000*	11.79
	✕C1	CONCRETE	LEVEL		1				
	C2212	10MPa concrete in blinding 50MM thick	M2	H	1,130	9.65	10,904.50	10.000*	10.62
	C341	20MPa concrete in foundations	M3	H	90	143.22	12,889.80	10.000*	157.54
	C3520	25MPa concrete in walls	M3	H	210	143.78	30,193.80	10.000*	158.16
	✕R	REINFORCEMENT	LEVEL		1				
	R268	E/O 16MM HTS for bars of dia 25MM	t	H	60	22.50	1,350.00	0.000*	22.50
	R3150	Welded Mesh reinforcement Ref 395	M2	H	1,690	7.90	13,351.00	0.000*	7.90
	✕LB	STORMWATER DRAINAGE	LEVEL		1				
	9L8372	Manhole size 1200x1200x1500MM deep internally.	no	H	10	280.61	2,806.10	0*	280.61

As depicted above, the macro bill item's (Op Code 9L8372) nett rate of R 280.61 plus a 0% markup add to a gross rate of R 280.61 despite the fact that the Op Codes F2200, C341, R3150 & M7883 used to generate the macro have been marked up 15%, 10%, 0% & 0% respectively.

RESOURCE TYPE RISK IN MACRO BILL ITEMS

Since Resource type risk markup allows the input of a percentage risk against each of the defined resource types (labour, plant, material, etc.), this markup affects the macro bill items in the same way it affects individual Op Codes with the marked up resource type. Logically it should be said that, for example, the labour component of a macro is equal to the sum of labour components of the bill items making up the macro. Therefore marking up the labour component of the job 5% means that the labour component of the macro (which is made up of the sum of labour components of the bill items making up the macro) is marked up 5% as well. This markup will be reflected

in the difference between the nett rate and the gross rate even if the applied or individual markup on the macro is at 0%.

Page 1 Nett + Mu = Gross To Sell									
BOQ PAGE		CLIENT'S PAGE							
ITEM	OP CODE	DESCRIPTION	UNIT	BILLED QUANTITY	NETT RATE	NETT AMOUNT	MARKUP	GROSS RATE	GRO
XF FORMWORK			LEVEL	1					
A	F2200	Vertical formwork to walls	m2	1,180	19.37	22,856.60	15.000*	23.06	
B	F7301	Formwork not exceeding 150mm high	m	20	10.72	214.40	10.000*	12.07	
XC1 CONCRETE			LEVEL	1					
C	C2212	10MPa concrete in blinding 50mm thick	m2	1,130	9.65	10,904.50	10.000*	10.69	
D	C341	20MPa concrete in foundations	m3	90	143.22	12,889.80	10.000*	158.69	
E	C3520	25MPa concrete in walls	m3	210	143.78	30,193.80	10.000*	159.65	
XR REINFORCEMENT			LEVEL	1					
F	R268	E/O 16mm HTS for bars of dia 25mm	t	60	22.50	1,350.00	0.000*	23.63	
G	R3150	Welded Mesh reinforcement Ref 395	m2	1,690	7.90	13,351.00	0.000*	7.93	
XL8 STORMWATER DRAINAGE			LEVEL	1					
H	9L8372	Manhole size 1200x1200x1500mm deep internally.	no	10	280.61	2,806.10	0*	282.14	

Note 9L8372: The gross rate is higher due to Resource type risk markup.