REF: http://www.eng-tips.com/viewthread.cfm?qid=337941 **Optimized cutting of steel angles using EXCEL** **rev. 2**

STOCK DATA	ID	type	length	qty av	$/m	qty us	unused
	S1	A	5000	150	10,700	0	150
	S2	A	6500	25	11,235	41	-16
	S3	B	6500	100	8,364	25	75
	S4	B	5500	120	8,200	0	120
					total	66	

PRODUCT DATA	ID	type	length	qty rq	qty pr	pr - rq
	P1	A	2000	20	22	2
	P2	A	2200	25	26	1
	P3	A	3000	50	50	0
	P4	B	2000	75	75	1E-08

recycled, mm **26500**
waste, mm **1300**

product cost, $	**4076,8**
waste cost, $	**14,6**
subtotal cost, $	**4091,4**
recycled cost, $	**261,8**
total cost, $	**4353,3**

S1	P1	P2	P3	P4	R	W
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
S101	1	0	1	0	0	0
2	2000	0	3000	0	0	0
0	0	0	0	0	0	0
S102	0	2	0	0	1	0
2	0	4400	0	0	600	0
0	0	0	0	0	0	0
S103	1	1	0	0	1	0
2	2000	2200	0	0	800	0
0	0	0	0	0	0	0
S104	2	0	0	0	1	0
2	4000	0	0	0	1000	0
0	0	0	0	0	0	0
S105	0	0	1	0	1	0
1	0	0	3000	0	2000	0
0	0	0	0	0	0	0
S106	0	1	0	0	1	0
1	0	2200	0	0	2800	0
0	0	0	0	0	0	0
S107	1	0	0	0	1	0
1	2000	0	0	0	3000	0
0	0	0	0	0	0	0

S2	P1	P2	P3	P4	R	W
41	**22**	**26**	**50**	**0**	**14000**	**1300**
2822,2	494,34	642,642	1685,3	0	157,29	14,606
S201	3	0	0	0	1	0
3	6000	0	0	0	500	0
3	9	0	0	0	1500	0
S202	1	2	0	0	0	1
3	2000	4400	0	0	0	100
13	13	26	0	0	0	1300
S203	2	1	0	0	0	1
3	4000	2200	0	0	0	300
0	0	0	0	0	0	0
S204	0	0	2	0	1	0
2	0	0	6000	0	500	0
25	0	0	50	0	12500	0
S205	0	1	1	0	1	0
2	0	2200	3000	0	1300	0
0	0	0	0	0	0	0
S206	1	0	1	0	1	0
2	2000	0	3000	0	1500	0
0	0	0	0	0	0	0
S207	0	2	0	0	1	0
2	0	4400	0	0	2100	0
0	0	0	0	0	0	0
S208	1	1	0	0	1	0
2	2000	2200	0	0	2300	0
0	0	0	0	0	0	0
S209	2	0	0	0	1	0
2	4000	0	0	0	2500	0
0	0	0	0	0	0	0
S210	0	0	1	0	1	0
1	0	0	3000	0	3500	0
0	0	0	0	0	0	0
S211	0	1	0	0	1	0
1	0	2200	0	0	4300	0
0	0	0	0	0	0	0
S212	1	0	0	0	1	0
1	2000	0	0	0	4500	0
0	0	0	0	0	0	0

S3	P1	P2	P3	P4	R	W
25	**0**	**0**	**0**	**75**	**12500**	**0**
1254,6	0	0	0	1255	104,55	0
S301	0	0	0	3	1	0
3	0	0	0	6000	500	0
25	0	0	0	75	12500	0
S302	0	0	0	2	1	0
2	0	0	0	4000	2500	0
0	0	0	0	0	0	0
S303	0	0	0	1	1	0
1	0	0	0	2000	4500	0
0	0	0	0	0	0	0

S4	P1	P2	P3	P4	R	W
0	**0**	**0**	**0**	**0**	**0**	**0**
0	0	0	0	0	0	0
S401	0	0	0	2	1	0
2	0	0	0	4000	1500	0
0	0	0	0	0	0	0
S402	0	0	0	1	1	0
1	0	0	0	2000	3500	0
0	0	0	0	0	0	0

Can someone suggest how to determine optimum cutting schedule from a give stocks of angle sections using excel?
Stock data
(100*100*7 is steel angle section (L shape) with both flange having 100mm width and 7mm thickness.)
100*100*7 ---- 5000 mm 150 qty cost 1000 $/MT
100*100*7 ---- 6500 mm 25 qty cost 1050 $/MT
90*90*6 --- 6500 mm 100 qty cost 1020 $/MT
90*90*6 ---- 5500 mm 120 qty cost 1000 $/MT
Requirement
100*100*7 2000 mm 20 qty
100*100*7 2200 mm 25 qty
100*100*7 3000 mm 50 qty
90*90*6 2000 mm 75 qty
How optimize cutting schedule so that wastage is minimize.

During cutting if remaining Pieces length is less then 500 mm then it is a wastage. If it is more than 500 mm then we can consider that same pieces will be utilized for other project. So minimum wastage is the goal.
Also please note that cost is defined as $/ton.
There are ready made programs available but I want to develop it on Excel.