



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	PRODUCT DATA ID	type	length	qty rq	qty pr	pr - rq	recycled, mm	27800	product cost, \$	
S1	A	5000	150	10,700	33	117	P1	A	2000	20	20	0	waste, mm	0	3947,8	
S2	A	6500	25	11,235	15	10	P2	A	2200	25	26	1			0,0	
S3	B	6500	100	8,364	25	75	P3	A	3000	50	50	1E-09			3947,8	
S4	B	5500	120	8,200	0	120	P4	B	2000	75	75	1E-08			272,3	
					total	73									total cost, \$	4220,1

S1	P1	P2	P3	P4	R	W	S2	P1	P2	P3	P4	R	W	S3	P1	P2	P3	P4	R	W	S4	P1	P2	P3	P4	R	W
33	20	26	20	0	7800	0	15	0	0	30	0	7500	0	25	0	0	0	75	12500	0	0	0	0	0	0	0	0
1682	428	612,04	642	0	83,46	0	1011,2	0	0	1011,2	0	84,263	0	1254,6	0	0	0	1255	104,55	0	0	0	0	0	0	0	0
S101	1	0	1	0	0	0	S201	3	0	0	0	1	0	S301	0	0	0	3	1	0	S401	0	0	0	2	1	0
2	2000	0	3000	0	0	0	3	6000	0	0	0	500	0	3	0	0	0	6000	500	0	2	0	0	0	4000	1500	0
20	20	0	20	0	0	0	0	0	0	0	0	0	0	25	0	0	0	75	12500	0	0	0	0	0	0	0	0
S102	0	2	0	0	1	0	S202	1	2	0	0	0	1	S302	0	0	0	2	1	0	S402	0	0	0	1	1	0
2	0	4400	0	0	600	0	3	2000	4400	0	0	0	100	2	0	0	0	4000	2500	0	1	0	0	0	2000	3500	0
13	0	26	0	0	7800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S103	1	1	0	0	1	0	S203	2	1	0	0	0	1	S303	0	0	0	1	1	0							
2	2000	2200	0	0	800	0	3	4000	2200	0	0	0	300	1	0	0	0	2000	4500	0							
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
S104	2	0	0	0	1	0	S204	0	0	2	0	1	0														
2	4000	0	0	0	1000	0	2	0	0	6000	0	500	0														
0	0	0	0	0	0	0	15	0	0	30	0	7500	0														
S105	0	0	1	0	1	0	S205	0	1	1	0	1	0														
1	0	0	3000	0	2000	0	2	0	2200	3000	0	1300	0														
0	0	0	0	0	0	0	0	0	0	0	0	0	0														
S106	0	1	0	0	1	0	S206	1	0	1	0	1	0														
1	0	2200	0	0	2800	0	2	2000	0	3000	0	1500	0														
0	0	0	0	0	0	0	0	0	0	0	0	0	0														
S107	1	0	0	0	1	0	S207	0	2	0	0	1	0														
1	2000	0	0	0	3000	0	2	0	4400	0	0	2100	0														
0	0	0	0	0	0	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														

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.