Warehouse management S2020/2021

Additional tasks

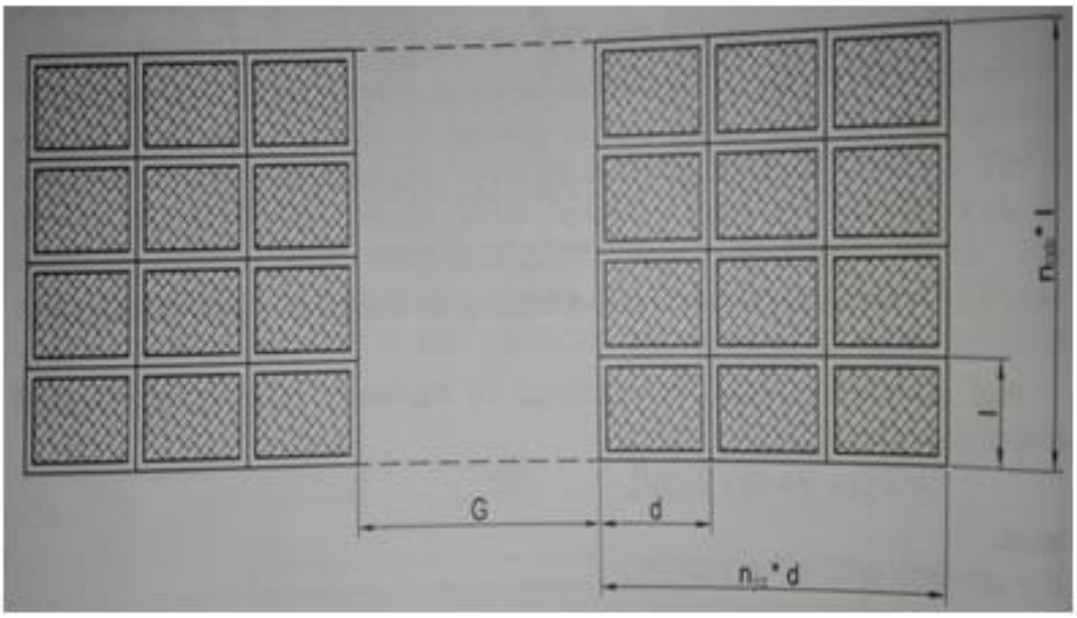
Task 1) ABC Analysis

10 kinds of products are kept in a small warehouse. In order to shorten the picking time and the distance covered by employees, it was decided to perform an ABC analysis according to the frequency of picking and additionally according to the quantity . Use the prepared table to perform the analysis.

		Picking operations												
	Product	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**	**S11**	**No of picks**	**Amount** (No. of pieces)
1.	A						810						1	810
2.	B		17		3		29		13	8	1	9	7	80
3.	C	20	1	3	5	12	14	2	6	4	8		10	75
4.	D		20	10	37		42	17	30	12	44	78	9	290
5.	E						90						1	90
6.	F		34				26						2	60
7.	G			19			66						2	85
8.	H						1900					2090	2	3990
9.	I	152	44		79		84		97		64		6	520
10.	J												0	0
No of picks		2	5	3	4	1	9	2	4	3	4	3	40	
No. of pieces :		172	116	32	124	12	3061	19	146	24	117	2177		6000

Task 2:

The area of modules shown in the figure should be calculated. where the width of the transport road is 4.5 m, and each block (perpendicular arrangement) holds 12 pallets (nrzj = 4 and nrzj = 3). Storage takes place on industrial pallets dimension (1.00m x 1.2m)



For calculation use the formula:

M= (2f+G)* L

Where

G - width of the transport road

f – n_{rzi} *d

d - corresponding dimensions of the pallet (depending on its parallel or perpendicular arrangement)

n_{rz} - number of loading units in a row of a block (horizontally)

L = l * nrzj

l- corresponding dimensions of the pallet (depending on its parallel or perpendicular arrangement);

nrzj - number of loading units in a row of a block (perpendicular/vertically)

Task 3

In the warehouse, euro pallets (dimensions: 0.8m x 1.2m) are stored in rows on the floor. Pallets are transported by a forklift truck with a width of 1180 mm, the transport is bi-directional without pedestrian traffic. Calculate the area of the module. Calculations should be made for the perpendicular and parallel variants.

Task 4

There are 138 euro pallets (dimensions: 0.8m x 1.2m) in the warehouse, which are stored in rows on the floor. Road width is 2.4 m. There are 3 such roads in the warehouse. The pallets are arranged perpendicular (vertical) to the three transport routes. Calculate the module area and total storage area. Make a draft of the pallets allocation along the three transport roads to find out how many modules (n) you will have in this warehouse.

For calculation the module size M use the standard formula. For calculating the storage are use the formula below:

Ps= n*M ; where M – area of module, n – number of modules