	Stack Volume Coefficient Evaluation, Expressed as Percentage	VMF PR P 7.3.01.02 E	
		Developed by: Aldis Ladusāns	Approved by: Jānis Buļš
		Date: 24/03/2010	

1. BASE COEFFICIENT FOR DIFFERENT WOOD SPECIES

Pine.....	68 %
Spruce.....	70 %
Birch.....	64 %
Aspen.....	66 %
Beech.....	64 %
Alder.....	65 %
Ash.....	64 %
Oak.....	65 %

Calculation of the coefficient

- 1) If the stack contains more than one species of wood, the stack coefficient is calculated by proportionately taking the coefficient of each species of wood, depending on the evaluated part of the timber of this species within the total stack volume (= proportional average coefficient).
- 2) For assortments intended for sawing, the above coefficient shall be increased by 2% for deciduous and 1% for conifers. The coefficient for aspen intended for manufacturing of matches shall be also increased by 2%.
- 3) When measuring the stack on vehicle, the coefficient shall be reduced by 1% if timber is well loaded up to the pole ends, otherwise the reduction shall be 2%.


2. REDUCTION DUE TO BARK

Extremely thin bark	- 4
Thin bark (large portion of smooth bark)	- 5
NORMAL BARK	- 6 -7 -8
Thick bark (large portion of rough bark)	- 9
Very thick bark	- 10 - 11 – 12

3. ARITHMETIC MEAN DIAMETER WHEN MEASURED FROM THE STACK END

- Unpeeled wood = mean diameter with bark
- Fully peeled wood = mean diameter without bark

	Cm	%
Very slim	4	- 13
	5	- 11
	6	- 9
	7	- 8
	8	- 7
	9	- 6
Slim	10	- 5
	11	- 4
	12	- 3
	13	- 2
Normal	14	- 1
	15	0
	16	+ 1
	17	+ 2

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Thick	18-19	+ 3
Very thick	20-22	+ 4
	23-26	+ 5
	27-39	+ 6
	40-69	+ 7
	70+	+ 8

4. STACKING QUALITY

Dense and well-stacked	0
Well-stacked	- 1
Slightly loose	- 2
Loose, some logs are slanting (regular stacking with the grapple loader)	- 3 to - 5
Very loose, many logs are slanting	- 6 to - 7
Extremely loose, very many logs are slanting	- 8 to - 9

5. CROOKEDNESS

Straight logs	0
Almost straight	- 1
Slightly crooked	- 2
Crooked	- 3 to - 4
Very crooked	- 5
Extremely crooked	- 6
Exceedingly crooked (branch wood)	- 7

For the stack of logs with an average diameter of 7 cm and less, the coefficient of crookedness in principle should be doubled.
For logs of 8-9 cm the crookedness reduction coefficient should be slightly adjusted.


6. PRUNING (including butt swells)

Separate branch stumps on some assortments, otherwise pruned to the surface of the assortment. Insignificant lumps of branches and slight butt swells on some of the assortment.	0
Several short branch stumps, overgrown branches, and a certain number of assortments with butt swells	- 1
A considerable number of branch stumps and assortments with butt swells, noticeable overgrown branches	- 2 to - 3
Large number of branch stumps, bigger lumps of branches and more assortments with expressed butt swells	
Partly with thick and high branch bases.	- 4 to - 5
With thick and high branch bases and (or) Extremely poor pruning (preparation)	- 6 to - 8

For the stack of logs with an average diameter of 7 cm and less the coefficient of knottiness in principle should be doubled.
For logs of 8-9 cm the knottiness reduction coefficient should be slightly adjusted.

7. TRUNK FORM/TAPERING

Assortments with a very good form of the trunk (insignificant tapering, smooth and even side surface).

 VMF LATVIA	Stack Volume Coefficient Evaluation, Expressed as Percentage	VMF PR P 7.3.01.02 E	
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31-50 % of total volume	+ 1
51-70 % of total volume	+ 2
71 % and more of total volume	+ 3

Assortments with a very poor form of trunk (extreme tapering, surface with many knots and lumps).

31-50 % of total volume	- 1
51-70 % of total volume	- 2
71 % and more of total volume	- 3

8. WET OR HARD SNOW AND ICE IN STACK

slight amount	- 2
larger amount	- 4
large amount	- 8
extremely large amount	- 12

9. FELLING RESIDUE IN STACK

Felling residue is log sections less than 50 cm long, chips, ripped-off parts and similar debris, bark, branches and remainder of bark on fully peeled assortments.

Absent or the volume is insignificant	0
Limited volume	- 1
Larger volume	- 2
A lot	- 3 to - 4

10. LENGTH OF ASSORTMENT (only standard lengths)

	Coniferous trees	Deciduous trees
4.0 metres	- 2	- 3
3.0 metres	0	0
2.5 metres	+ 1	+ 1
2.0 metres	+3	+ 4

11. STACK HEIGHT (except the stack on vehicle)

For a stack exceeding 2 metres within two thirds of the length of the bottom layer + 1

For a stack exceeding 3 metres within two thirds of the length of the bottom layer + 2

Note:

For your own convenience it is advised that VMF Latvia table folder should be used when performing works.