



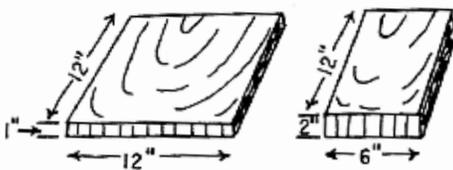
Renewable Resource Notes

Converting between Doyle and International ¼" Board Foot Rules

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Landowners, timber buyers, loggers and foresters often have difficulty in converting between two common measures of board foot volume in standing trees. Much of the timber industry operates with the Doyle rule, while some use the International ¼" rule. It is commonly understood that the Int. ¼" rule is the more accurate, in that Doyle underestimates lumber volume, particularly in the smaller-diameter trees.

Some timber sales are offered with trees that were measured using the Int. ¼" rule, and potential bidders accustomed to operating with Doyle rule must convert. A conversion factor is often used. With standing trees for instance, to convert Int. ¼" to Doyle, the Int. ¼" can be multiplied by .78. To convert Doyle to Int. ¼", the Doyle volume can be multiplied by 1.3.



Board Foot = 144 cubic inches

Such conversion factors may be too general, particularly when the trees being measured are noticeably small or large. Both of the above conversion factors appear to be based on the average tree (in the stand) measuring 22 inches in diameter at breast height (dbh) with three 16-foot logs (22" x 3). With most private timber sales, an average tree of 22 inches x 3 logs would be considered large. In such cases, the factors to convert between rules should be adjusted.

For a quick reference, the following tables have been adapted to aid readers in conversion of Doyle to Int. ¼" and vice versa. Notice the conversion factors vary considerably by dbh and somewhat by the log length. For further inquiry, contact a professional forester.

Table 1. Conversion of Board Foot Volume from Doyle to International ¼” Rule

No. 16 Foot Logs					
DBH	1	2	3	4	Average
14	1.63	1.76	1.87	1.94	1.8
18	1.36	1.42	1.46	1.51	1.4
22	1.21	1.25	1.28	1.31	1.3
26	1.12	1.15	1.17	1.19	1.2
30	1.07	1.09	1.10	1.12	1.1
34	-	1.04	1.06	1.07	1.06
38	-	1.01	1.02	1.03	1.02

Multiply Doyle volume by these conversion factors to arrive at Int. ¼”.

Table 2. Conversion of Board Foot Volume from International ¼” to Doyle Rule

No. 16 Foot Logs					
DBH	1	2	3	4	Average
14	.62	.57	.53	.52	.56
18	.74	.70	.68	.66	.70
22	.82	.80	.78	.72	.78
26	.89	.87	.85	.84	.86
30	.93	.92	.91	.89	.91
34	-	.96	.95	.94	.95
38	-	.99	.98	.97	.98

Multiply Int. ¼” volume by these conversion factors to arrive at Doyle.

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