

Wood Moisture Solutions, Lumber Drying Workshop Complete

		Section and modules	Slides	Topics	Quizzes	Required Narration	Optional Narration
	1	COURSE INTRODUCTION	19	2	1	10:32	01:05
1	1A	Course introduction	19	2	1	10:32	01:05
	2	GETTING STARTED	37	2	2	25:25	00:00
2	2A	Why wood is dried	17	1	1	15:25	00:00
3	2B	Safety	20	1	1	10:00	00:00
	3	WOOD, THE MATERIAL TO BE DRIED	77	5	5	39:21	10:58
4	3A	Features of trees and lumber	15	1	1	14:13	00:00
5	3B	Softwood structure	15	1	1	10:35	00:00
6	3C	Hardwood structure	20	1	1	00:00	10:58
7	3D	Wood variability and its impact on drying	17	1	1	10:14	00:00
8	3E	Specific gravity	10	1	1	04:19	00:00
	4	PROPERTIES OF AIR AND WATER VAPOR	35	3	2	35:38	00:00
9	4A	Measuring temperature and humidity	21	2	1	19:14	00:00
10	4B	Psychrometrics	14	1	1	16:24	00:00
	5	MOISTURE CONTENT AND ITS EFFECT ON WOOD	94	8	8	33:49	21:10
11	5A	Moisture content	13	1	1	10:53	00:00
12	5B	Oven-dry method	14	1	1	00:00	07:30
13	5C	Moisture content samples	31	2	2	00:00	13:40
14	5D	Water in wood, EMC	17	2	2	11:08	00:00
15	5E	Shrinkage and strength	19	2	2	11:48	00:00
	6	WATER MOVEMENT IN WOOD	46	6	6	33:52	00:00
16	6A	Water movement in wood	21	3	3	13:56	00:00
17	6B	Factors affecting the drying rate	25	3	3	19:56	00:00
	7	STRESS AND DEFECTS	77	5	5	52:44	18:19
18	7A	Stress development	19	2	2	13:27	03:04
19	7B	Stress relief, conditioning	20	1	1	10:00	15:15
20	7C	Defects due to wood-related factors	15	1	1	10:02	00:00
21	7D	Defects that develop in the kiln	23	1	1	19:15	00:00
	8	SCHEDULES	249	16	12	1:48:11	1:13:34
22	8A	Air drying	54	4	3	00:00	21:55
23	8B	Types of schedules	17	1	1	20:00	00:00
24	8C	Lumber segregation and kiln startup	10	1	1	10:02	00:00
25	8D	Time-based schedules	18	1	1	16:17	00:00
26	8E	Moisture-based schedules	41	2	2	00:00	30:24
27	8F	Equalization	21	1	1	22:40	00:00
28	8G	Conditioning and cooldown	21	1	1	15:20	00:47
29	8H	Schedule examples	28	2	0	05:51	11:25
30	8I	Special schedules	28	2	1	11:18	09:03
31	8J	High-temperature drying	11	1	1	06:43	00:00

	9	HOW KILNS OPERATE	186	10	10	2:22:34	0:18:39
32	9A	Kiln designs	26	1	1	16:45	07:38
33	9B	Steam	20	1	1	12:38	02:35
34	9C	Steam-heated kilns, steam delivery	24	1	1	20:11	00:00
35	9D	Steam-heated kilns, condensate return	19	1	1	12:11	00:00
36	9E	Direct-fired kilns	15	1	1	00:00	08:26
37	9F	Venting and humidification	18	1	1	20:24	00:00
38	9G	Fan systems	18	1	1	19:41	00:00
39	9H	Baffling	15	1	1	13:13	00:00
40	9I	Measuring airflow	19	1	1	15:36	00:00
41	9J	Selecting an air velocity	12	1	1	11:55	00:00
	10	PREPARING A CHARGE	62	3	3	0:31:26	0:12:56
42	10A	Sorting in the sawmill	18	1	1	14:54	00:00
43	10B	Stacking	28	1	1	16:32	00:00
44	10C	Sorting at the planer	16	1	1	00:00	12:56
	11	RUNNING A CHARGE	103	9	5	1:15:53	0:03:02
45	11A	Kiln loading	32	1	1	13:46	00:00
46	11B	Preparing to dry	15	1	1	11:50	00:00
47	11C	Measuring moisture content	26	4	1	19:25	03:02
48	11D	Running a charge	30	3	2	30:52	00:00
	12	MAINTENANCE	89	6	6	1:05:08	0:00:00
49	12A	How the controller works	28	2	2	20:17	00:00
50	12B	Control system maintenance	28	2	2	23:10	00:00
51	12C	Mechanical maintenance	33	2	2	21:41	00:00
	13	OPERATING EFFICIENTLY	54	4	4	0:37:26	0:00:31
52	13A	Cost	23	1	1	15:56	00:00
53	13B	Energy	19	2	2	12:49	00:31
54	13C	Minimizing downtime	12	1	1	08:41	00:00
	14	QUALITY ASSURANCE	64	4	4	1:01:00	0:01:56
55	14B	Understanding data	23	2	2	22:33	01:56
56	14C	Continuous improvement	16	1	1	15:57	00:00
57	14D	Using the planer moisture meter	25	1	1	22:30	00:00

SUMS:	1192	83	73	12:32:59	2:42:10
	Slides	Topics	Quizzes	Required	Optional
				Narration	

*DA = Discussion assignment, do 4 of the 8