

DRY KILN PERFORMANCE TEST CONDUCTED ON GREEN-DRI™

Conducted by: Akita Prefecture Wood Processing Promotion Organization
Date: March 9th thru 23rd, 2006
Location: Japan Non-Flammable Wood Material Lab in Tokyo
Dry-Kiln used: Green-Dri™ BDK-3000
Temp Set for: 40 degree C (104 degree F)
Test Material: Green Japanese Cedar from Akita-prefecture
Observers: Akita University
Akita Cedar Drying Technology Research Association

Test Procedure:

- Day - 4:** Measured MC at Akita site before being shipped
- Day 0:** Placed in the dry kiln in Tokyo
- Day 2:** 1st MC Measurement taken
- Day 5:** 2nd MC measured and shipped them back
- Day 10:** MC measured after arriving back to Akita site



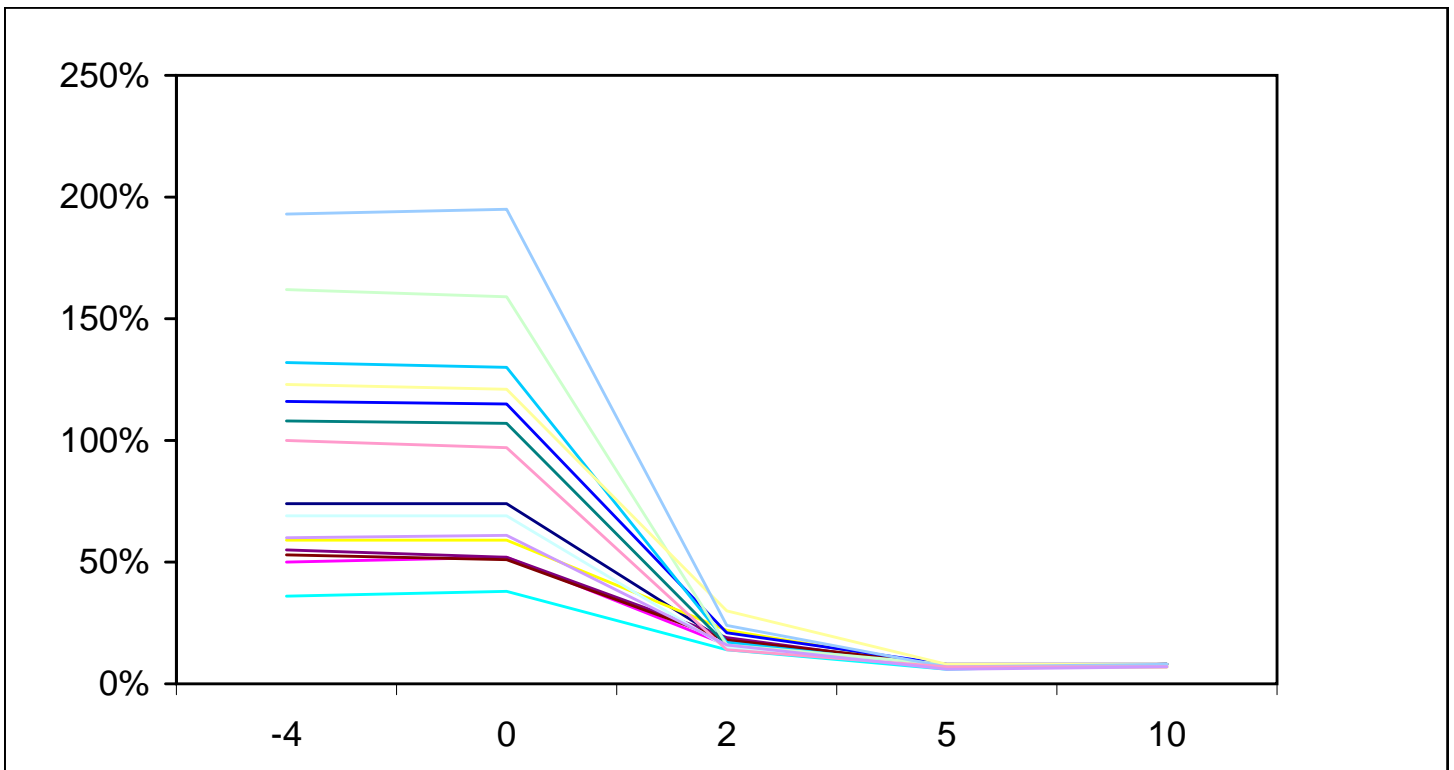
DRY KILN TEST (12 mm)

Sample Dimensions:

Thickness 12 mm = 0.47 inches
 Width 135 mm = 5.31 inches
 Length 1800 mm = 70.87 inches

MC after 5 days 7.1%

Samples#	Moisture Content with Lateral Impact Vibration Method measurement corrections					Note
	Days in Green-Dri Dry Kiln					
	-4	0	2	5	10	
16	74%	74%	17%	7%	8%	Black-Heartwood
17	50%	52%	16%	7%	8%	
18	59%	59%	22%	7%	7%	
19	36%	38%	14%	6%	8%	
20	55%	52%	19%	7%	8%	Black-Heartwood
21	53%	51%	18%	8%	8%	Black-Heartwood
22	108%	107%	16%	7%	8%	Black-Heartwood
23	116%	115%	21%	8%	8%	Black-Heartwood
24	132%	130%	17%	7%	8%	Black-Heartwood
25	69%	69%	15%	7%	8%	Black-Heartwood
26	162%	159%	16%	8%	8%	
27	123%	121%	30%	8%	8%	
28	193%	195%	24%	7%	8%	
29	100%	97%	14%	7%	7%	
30	60%	61%	16%	6%	7%	Black-Heartwood



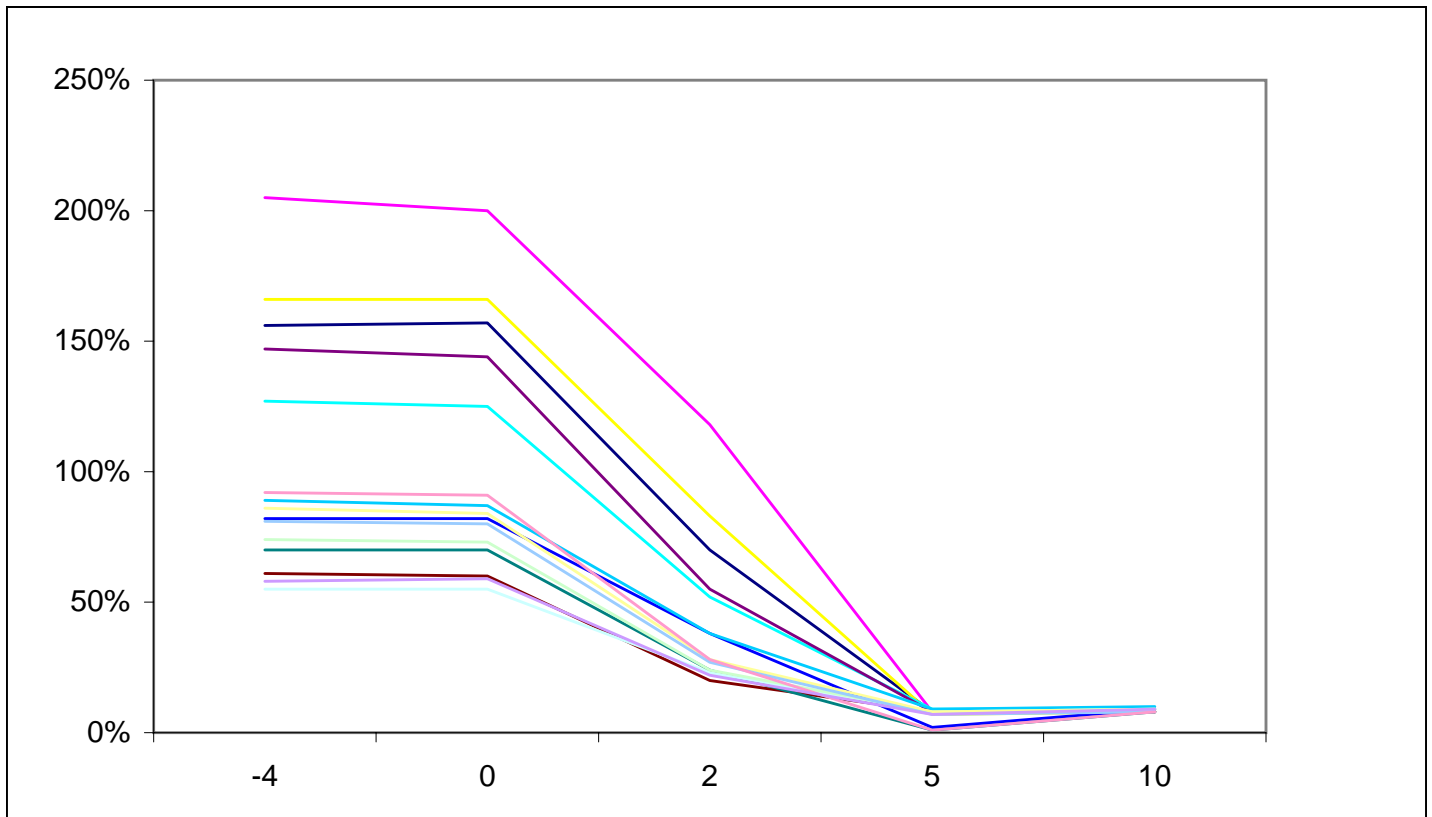
DRY KILN TEST (21 mm)

Dimensions:

Thickness 21 mm = 0.83 inches
 Width 135 mm = 5.31 inches
 Length 1800 mm = 70.87 inches

MC after 5 days 6.6%

Samples#	Moisture Content					Note
	Days in Green-Dri Dry Kiln					
	-4	0	2	5	10	
1	156%	157%	70%	8%	8%	
2	205%	200%	118%	8%	8%	
3	166%	166%	83%	7%	8%	
4	127%	125%	52%	9%	9%	
5	147%	144%	55%	8%	8%	
6	61%	60%	20%	8%	8%	Black-Heartwood
7	70%	70%	24%	1%	8%	Black-Heartwood
8	82%	82%	38%	2%	9%	
9	89%	87%	38%	9%	10%	
10	55%	55%	23%	8%	9%	Black-Heartwood
11	74%	73%	24%	8%	8%	Black-Heartwood
12	86%	84%	28%	8%	9%	Black-Heartwood
13	81%	80%	27%	7%	8%	Black-Heartwood
14	92%	91%	28%	1%	8%	Black-Heartwood
15	58%	59%	22%	7%	9%	Black-Heartwood



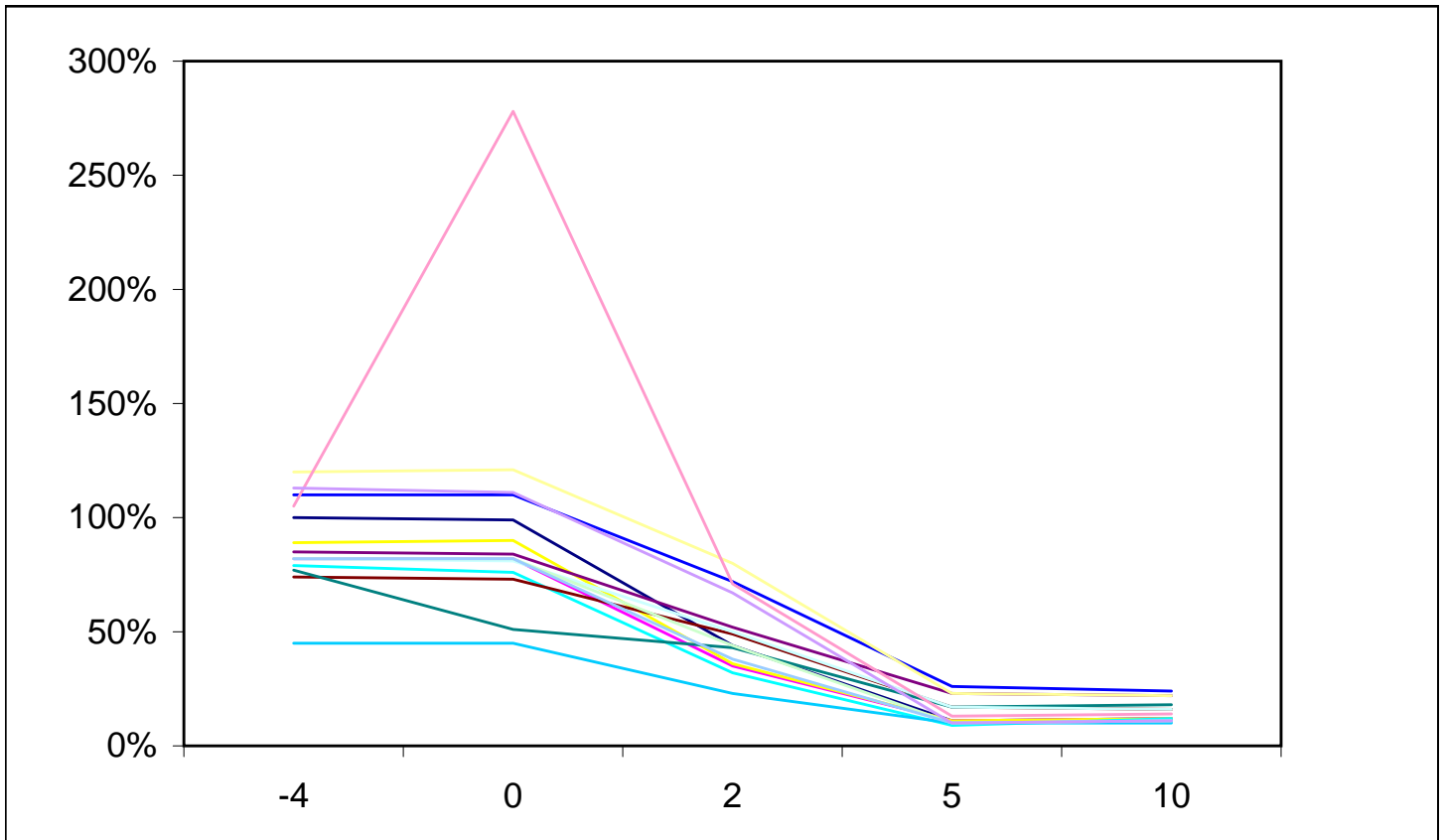
DRY KILN TEST (33 mm)

Dimensions:

Thickness **33 mm** = 1.30 inches
 Width 135 mm = 5.31 inches
 Length 1800 mm = 70.87 inches

MC after 5 days 14.5%

Samples#	Moisture Content					Note
	Days in Green-Dri Dry Kiln					
	-4	0	2	5	10	
31	100%	99%	44%	11%	12%	Black-Heartwood
32	82%	82%	35%	11%	12%	Black-Heartwood
33	89%	90%	36%	11%	12%	
34	79%	76%	32%	9%	12%	Black-Heartwood
35	85%	84%	52%	23%	22%	Black-Heartwood
36	74%	73%	49%	17%	16%	
37	77%	51%	43%	17%	18%	
38	110%	110%	72%	26%	24%	Black-Heartwood
39	45%	45%	23%	10%	10%	Black-Heartwood
40	82%	81%	50%	17%	16%	Black-Heartwood
41	82%	82%	44%	10%	11%	Black-Heartwood
42	120%	121%	80%	23%	22%	Black-Heartwood
43	82%	82%	38%	10%	11%	Black-Heartwood
44	105%	278%	71%	13%	14%	Black-Heartwood
45	113%	111%	67%	10%	11%	Black-Heartwood



NOTE:

About Japanese Cedar (*Cryptomeria*)

Cryptomeria is a genus of conifer in the cypress family Cupressaceae formerly belonging to the family Taxodiaceae; it includes only one species, *Cryptomeria japonica* (syn.: *Cupressus japonica* L.f.) . It is endemic to Japan, where it is known as **Sugi** (Japanese: 杉); this vernacular name is increasingly being used as the English name as well, replacing the old, botanically inaccurate name "Japanese Cedar"—the tree is not related to the cedars (*Cedrus*).



About Black-Heartwood

Approximately 20% of all Japanese Cedars come with black heartwood like the photo shown below. The black heartwood is known to contain higher moisture and also chemicals which resist termites and other insects.

