

Joint Compound Drying Times – Effects of Temperature & Humidity

Technical Data Sheet

Extreme weather conditions contribute to joint compound bond failures, delayed shrinkage, ridging, nail pops, joint flashing and board sagging.

The following recommendations do minimize problems:

- Joint treatment and texture should not be applied before a minimum temperature of 13°C/55°F can be maintained for 24 hours prior to, during, and continuously after application.

- Suitable heat and ventilation must be supplied to insure a drying condition (note: temporary heat can cause high humidity.)
- Ready-Mixed joint treatment products must be protected from freezing.
- Setting compounds can be helpful in cold weather conditions, but should not be applied in temperatures below 13°C/55°F.
- Each coat of joint compound must be dry before the addition of the next coat.

Estimated drying time for a normal thickness of ready-mixed joint compound under tape:

RH	RH= Relative Humidity				D= Days (24 hrs.) H=Hours		
98%	38D	26D	18D	12D	9D	6D	4½D
97%	26D	18D	12D	9D	6D	4½D	3¼D
96%	21D	14D	10D	7D	5D	3½D	2½D
95%	17D	12D	8D	6D	4D	2¾D	2D
94%	14D	10D	7D	5D	3¼D	2¼D	41H
93%	12½D	9D	6D	4D	2¾D	2D	36H
92%	11D	8D	5D	3½D	2½D	44H	32H
91%	10D	7D	4¾D	3¼D	2¼D	40H	29H
90%	9D	6D	4½D	3D	49H	36H	26H
85%	6D	4D	3D	2D	34H	25H	18H
80%	4¾D	3¼D	2¼D	38H	27H	19H	14H
70%	3½D	2¼D	38H	26H	19H	14H	10H
60%	2½D	42H	29H	20H	14H	10H	8H
50%	2D	36H	24H	17H	12H	9H	6H
40%	44H	29H	20H	14H	10H	7H	5H
30%	38H	26H	18H	12H	9H	6H	4½H
20%	34H	23H	16H	11H	8H	5½H	4H
10%	30H	21H	14H	10H	7H	5H	3½H
0	28H	19H	13H	9H	6H	4½H	3H
	4°/40°	10°/50°	15°/60°	21°/70°	27°/80°	32°/90°	38°/100°
	TEMPERATURE (C°/F°)						

For evaporation of 45.3 kg (10 lbs) of water per 76,200 mm (250 ft) of tape, corresponding to 1.6 to 2.0 mm (1/16" to 5/64") wet compound thickness under the tape. Thicker or thinner coats of compound will affect drying times in proportion to the wet compound thickness. These drying times apply when the exposed surface of the tape is bare or nearly bare, and when adequate ventilation is provided. A heavy coat of compound over the tape will lengthen the drying time.

Source: Joint Treatment Under Extreme Conditions. (GA-236-2000)

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