

pro-bond RCC PROCESS GUIDE

UL Approval: E214381 Version: 26/03/2024

pro-bond 4C (VT-464LT RCC), pro-bond 7C (VT-770 RCC), pro-bond 8C (VT-463H RCC)

Precautions in Handling

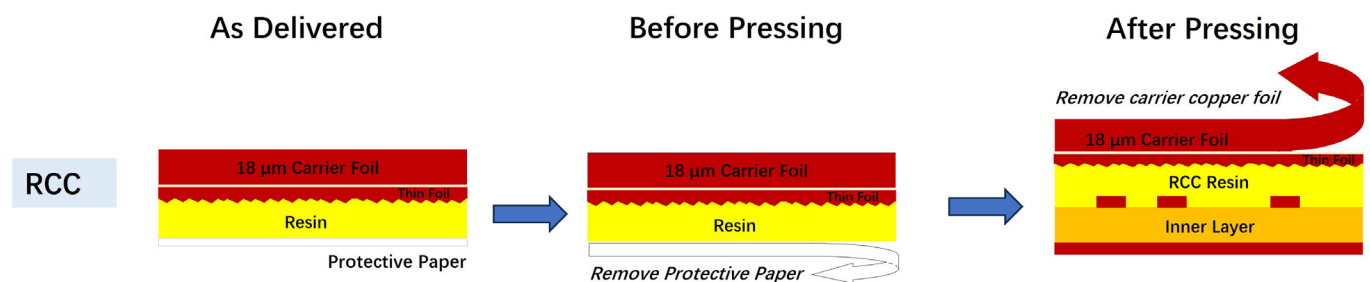
- Storage Condition & Shelf Life

		RCC	
Storage Condition	Temperature	Below 23°C (73°F)	Below 5°C (41°F)
	Relative Humidity	Below 55%	/
Shelf Life		3 Months	6 Months

- The RCC exceeding shelf time should be retested.
- Take care in handling RCC as they are easily damaged.
- If the RCC is not consumed within 48hrs after opening package, it is recommended that the bags be resealed.

Product Handling & Press Process Flow

- Please be careful when RCC is designed to the dielectric layer.
- Dimension stability could be a little large than reinforce glass fabric material, like prepreg.
- Please check with your oxide vendor to make sure that our material is suitable with your oxide process. We recommend controlling the peel strength with brown oxide copper over 2.0 Lb/in.



Press Profile/Parameters

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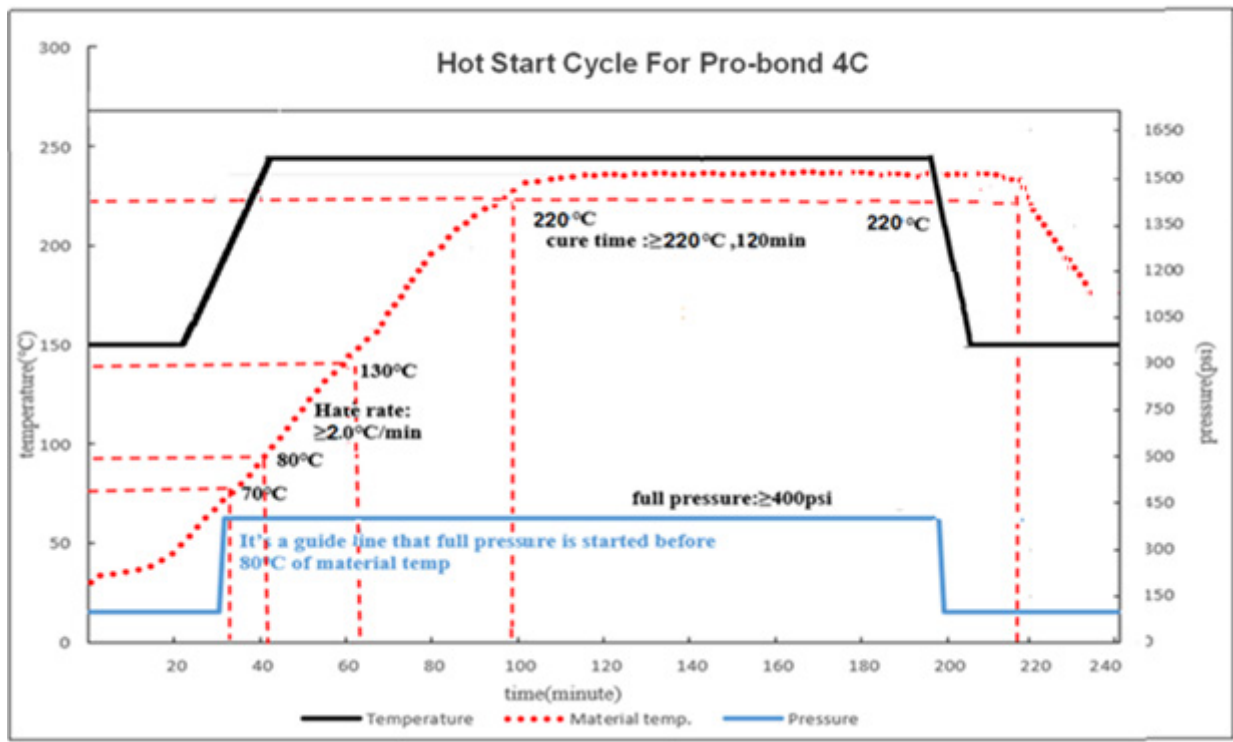
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pro-bond 4C (VT-464LT RCC) Press Parameters

1. Heating rate (Rate of Rise) of material [Material Temperature]:
Programmable Press: 2.0-3.0°C/min (3.6~5°F/min). Manual Press: 3~6°C/min (5~10°F/min)
2. Curing Temperature & Time: >120min at more than 220°C (428°F) [Material Temperature].
3. Full Pressure: ≥400psi
4. Vacuuming should be continued until over 140°C (284°F) [Material Temperature]
5. Cold Press condition:
Keep Plate @ Room Temperature by water; Pressure: 100psi; Keep Time: 60minutes



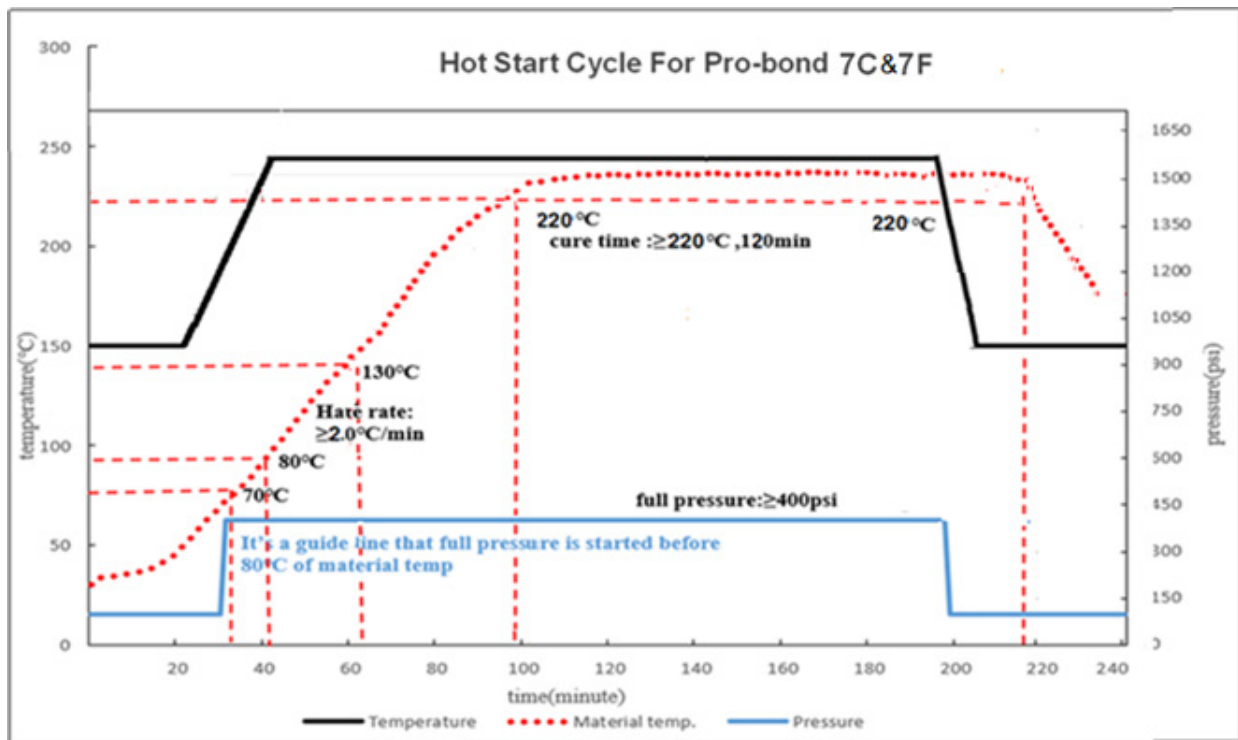
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pro-bond 7C (VT-770 RCC) Press Parameters

1. Heating rate (Rate of Rise) of material [Material Temperature]:
Programmable Press: 2.0-3.0°C/min (3.6~5°F/min). Manual Press: 3~6°C/min (5~10°F/min)
2. Curing Temperature & Time: >120min at more than 220°C (428°F) [Material Temperature].
3. Full Pressure: ≥400psi
4. Vacuuming should be continued until over 140°C (284°F) [Material Temperature]
5. Cold Press condition:
Keep Plate @ Room Temperature by water; Pressure: 100psi; Keep Time: 60minutes



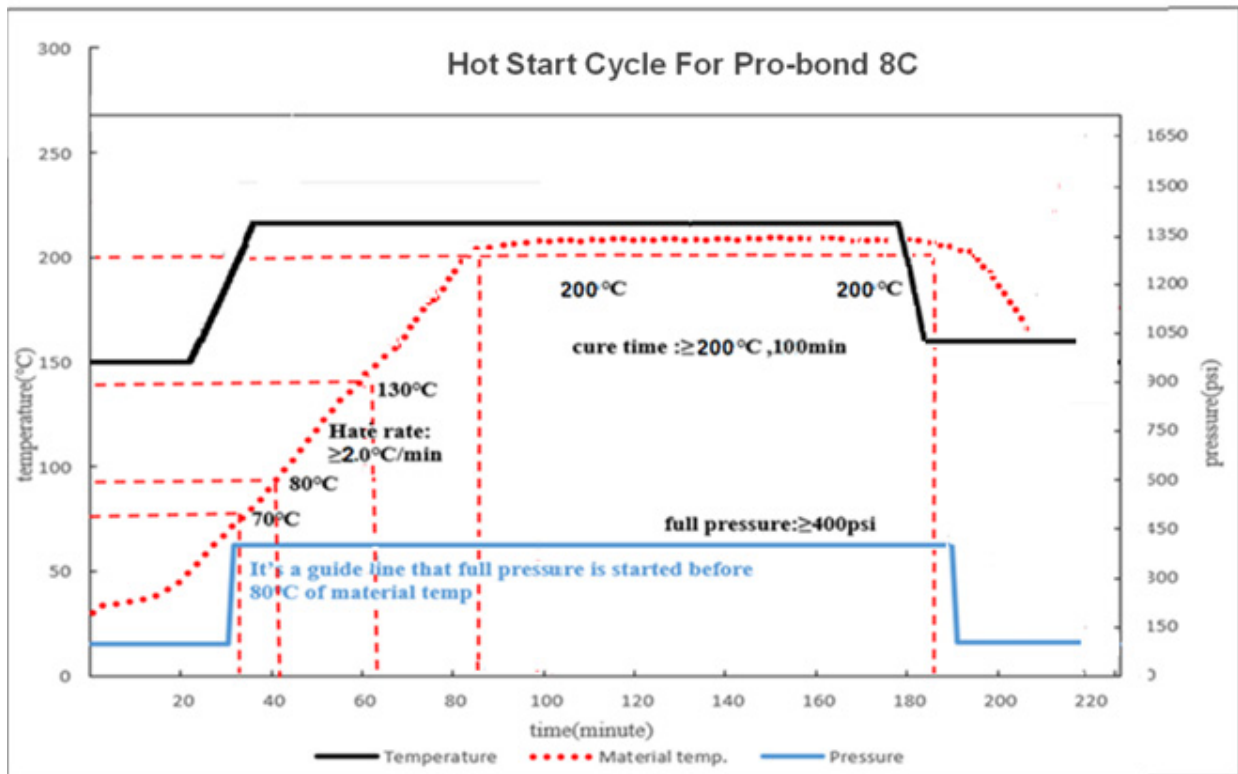
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pro-bond 8C (VT-463H RCC) Press Parameters

1. Heating rate (Rate of Rise) of material [Material Temperature]:
Programmable Press: 2.0-3.0°C/min (3.6~5°F/min). Manual Press: 3~6°C/min (5~10°F/min)
2. Curing Temperature & Time: >100min at more than 200°C (392°F) [Material Temperature].
3. Full Pressure: ≥400psi (before 80°C)
4. Vacuuming should be continued until over 140°C (284°F) [Material Temperature]
5. Cold Press condition:
Keep Plate @ Room Temperature by water; Pressure: 100psi; Keep Time: 60minutes



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pro-bond 4C (VT-464LT RCC), pro-bond 7C (VT-770 RCC), pro-bond 8C (VT-463H RCC)

Typical Drilling Condition

pro-bond 4C (VT-464LT RCC), pro-bond 7C (VT-770 RCC), pro-bond 8C (VT-463H RCC)

Diameter	Spindle Speed (KRPM)	Feed Rate (IPM)	Retract Rate (IPM)	Hit Count
0.10mm	200~300	25~38	800	1000
0.20mm	150~200	38~50	800	1000
0.30mm	100~150	38~60	800	1000
0.40mm	80~100	40~50	800	1000

1. Drilling parameters should be adjusted depending on hole size, layer count, panel thickness, stack count and stack height etc;
2. Please adjust drilling parameters after checking qualities of through holes;

Desmear Process

pro-bond 4C (VT-464LT RCC), pro-bond 7C (VT-770 RCC), pro-bond 8C (VT-463H RCC)

1. Desmear rate of pro-bond material is less than conventional FR-4;
 - VT-464LT RCC - 1 cycle plasma or twice cycles horizontal desmear is recommended.
 - VT-770 RCC&RCF - 1 cycle plasma+1cycle vertical desmear or twice cycles horizontal desmear is recommended.
 - VT-463H RCC - 1 cycle plasma + 1 cycle vertical (or horizontal) desmear is recommended.
2. Adjustments to the desmear process are necessary for the lead-free materials;
3. Check with your chemical supplier for recommendations.
4. Holding time from desmear to PTH process: <2 hours

Consult the chemical supplier when setting others parameters for pro-bond.

Disclaimer:

- > The information and data contained in this technical literature is based on data and knowledge correct at the time of publishing/ printing and is believed to be accurate and is offered in good faith for the benefit of the user. The user should make his own tests to verify the suitability of this product for any application before its use. All data are typical values only and subject to change without notice.