Comparison of Resin Rich and VPI system

Step of process	Resin Rich	VPI
Preconsolidation	For both systems with resin-rich additional material or with hot meld coated conductor tapes in the press	
Slot insulation	Full width- takes a lot of time to cut the right dimension. Hard work to bring it on the coils. Influences the quality of the insulation. A few presses with good and exact devices needed. Takes much time. With tapes less complicated.	Tapes with automatic devices used. Very expensive. Homogeneous insulation and uncritical area towards the overhang. Easier to store the tapes. No refrigerator needed.
Outer corona protection	Not as easy as in VPI. Just to bandage.	Just to bandage.
Stress grading tape	If it pressed it could slip	Just to bandage.
Overhang	Has to be constructed longer ($\eta<$). Different materials has to be used. Overhang has to be taped separately.	Short Overhang. The same used material. Time reduced production. Additional tape has to be used to protect against resin flow. (ISOSEAL)
Piece by piece test	Very easy. 3x Un, tg δ	Only in special cases relevant. e.g. 1,5xUn direct voltage
Fitting	Risk of damage due to the relatively stiff overhang and narrow tolerances	Easier due to the more flexible overhang
Slot wedges	Exact work has to be done. Needs a lot of time	Magnoval ($\eta>$) uncritical in addition with swelling material like Poromat.
Voltage test	Very easy	Not very predicative
Evacuation	Uncritical	Points that are important: curing; swelling (Poromat); sticking together (EGSB)
Impregnating	Additional as protection against high humidity	Complicated device necessary. Storage of resin, ageing of resin, cool storage conditions required for the resin. High amount of material and energy needed.
Curing	Uncritical	Risk of running out of resin due to wrinkles
Quality	Sometimes troubles with the overhang	Overhang is stiff. No weak coils. Homogeneous insulation. Higher breakdown voltage reachable. Higher operation field strength possible.
Repairing	Possible for each coil	Winding must be replaced totally