

## Information on the areas of application and properties of lamination resins

Classification of Duroplastics									
Acrylic resin							Vinyl ester resin	Epoxy resin	
- proven and versatile -							- user-friendly and stable -	- structurally strong and thin-walled -	
<ul style="list-style-type: none"> <li>• Universal resins</li> <li>• Variable mixing ratio</li> <li>• Short curing time</li> <li>• Fast further processing</li> </ul>							<ul style="list-style-type: none"> <li>• Optimal carbon and fibreglass bonding</li> <li>• Variable mixing ratio</li> <li>• High self-strength</li> <li>• Short annealing time</li> </ul>	<ul style="list-style-type: none"> <li>• Optimal carbon and fibreglass bonding</li> <li>• Fixed mixing ratio</li> <li>• Fewer reinforcement layers needed</li> <li>• Very high self-strength</li> <li>• Low wall thickness</li> </ul>	
Sealing resin	Soft resin			Rigid resin					
Orthocryl sealing resin	Orthocryl, extra soft	Orthocryl, soft	Orthocryl lamination resin 80:20 Speed	Orthocryl lamination resin 80:20	C-Orthocryl	Orthocryl lamination resin 80:20 PRO	Orthovinyl	Orthopox	
617H21	617H51	617H17	617H19S	617H19	617H55	617H119	617H500	617H5	
Processing Video									
Areas of application									
<ul style="list-style-type: none"> <li>• Sealing</li> <li>• Gluing</li> <li>• For making putties</li> <li>• Not suitable for lamination</li> </ul>	<ul style="list-style-type: none"> <li>• Socket brims</li> <li>• Flaps</li> <li>• Flexible socket areas</li> </ul>	<ul style="list-style-type: none"> <li>• Small components</li> <li>• Short curing time</li> </ul>	<ul style="list-style-type: none"> <li>• Components with fibreglass content as well as components with low to no carbon fibre content</li> <li>• Curing time can be reduced by adding Orthocryl lamination resin 80:20 Speed</li> </ul>	<ul style="list-style-type: none"> <li>• Strong components</li> <li>• High carbon fibre content</li> <li>• Curing time can be reduced by adding Orthocryl lamination resin 80:20 Speed (increases the viscosity)</li> </ul>	<ul style="list-style-type: none"> <li>• Strong components</li> <li>• High carbon fibre content</li> <li>• Can also be combined with other reinforcement materials</li> <li>• Curing time can be reduced by adding Orthocryl lamination resin 80:20 Speed (increases the viscosity)</li> </ul>	<ul style="list-style-type: none"> <li>• High-strength components</li> <li>• High fibreglass content</li> </ul>	<ul style="list-style-type: none"> <li>• For lightweight, thin-walled and high-strength components</li> <li>• High carbon fibre content</li> <li>• Tested resin system for C-Brace® fabrication</li> </ul>		
Reinforcement materials									
Stockinettes	—	✓	✓	✓	✓	✓	✓	✓	✓
Glass Fibreglass	—	—	—	✓	✓	✓	—	✓	✓
Carbon fibres	—	—	—	✓	✓	✓	✓	✓	✓
Orthopox mesh/flex	—	—	—	—	—	—	—	—	✓
Characteristics and processing									
Viscosity	●●●●○	●●●●●	●●●●○	●●●●○	●●●●○	●●●●○	●●●●○	●●●●○	●●●●○
Strength	●●●○	●●●○	●●●○	●●●○	●●●○	●●●○	●●●○	●●●○	●●●○
Stiffness	●○○○	●○○○	●○○○	●○○○	●○○○	●○○○	●○○○	●○○○	●○○○
Forming properties	All resins are duroplastics (not thermoplastics). The components lose their profile of properties when deformed, meaning their mechanical effect is destroyed.								
Mixing ratio	Resin : Hardener : Colour paste 100 : 1 : 3	Resin : Hardener : Colour paste 100 : 1-2 : 3		Resin : Hardener : Colour paste 100 : 1-3 : 3			Resin : Hardener : Colour paste 100 : 1-2 : 3	Resin : Hardener : Colour paste 100 : 26 : 3	
Pot life	Approx. 5 min.	Approx. 25 min.	Approx. 25 min.	Approx. 15 min.	Approx. 25 min.	Approx. 25 min.	Approx. 35 min.	Approx. 35 min.	Approx. 60 min.
Curing time (including pot life)	Approx. 10 min.	Approx. 45 min.	Approx. 45 min.	Approx. 25 min.	Approx. 45 min.	Approx. 45 min.	Approx. 55 min.	Approx. 75 min.	Approx. 10 h
Annealing	—	—	—	—	—	—	—	Approx. 3 h at 80 °C	Approx. 1 h at 60 °C and approx. 10 h at 80 °C
Legend:	●●●●● = very high	●○○○ = very soft	●○○○ = very low	●●●●○ = high	●●○○ = soft	●○○○ = low	●●●●○ = medium	●●●● = hard	●●●● = high
	●●○○○ = low	●●●● = very hard	●●●● = very high	●○○○○ = very low					