

COMPOSITE REPAIR

COMPOSITE PATCH[®] launches this use guidelines with the objective to help his costumers in the reparation of composite parts. This quick guide will help to select the right process reparation in function of the expertise and the needs of the user. For any question please contact us at info@compositepatch.com.

You will find practical examples in our website www.compositepatch.com or in the Composite Patch YouTube official canal.

1. IDENTIFY YOUR COMPOSITE DAMAGE

Damage to composite components is not always visible. From a general point of view we can find 3 types of typical damage in the structures made of composite. Composite Patch will help you in the repair or any of them.

- **Impact Delamination** You can easily identify it by visual inspection.



- **Laminate Splitting.** It is not possible to identify it by visual inspection. You will need Non Destructive Test (NDT) methods. Alternatively the damaged areas can be located by simply tapping the composite surface and listening to the sound. The damaged areas give a dull response to the tapping, and the boundary between the good and damaged composite can easily be mapped to identify the area for repair.



- **Separation of surface plies.** You will appreciate visually and tapping sound will be also different in the damage area.



2. SELECT YOUR COMPOSITE PATCH

Please check your needs and select the right composite patch.

For general purpose Glass Composite Patch are ideal.

If you would like low weight reparation and high performance, look for a carbon Composite Patch.

The higher weight the higher mechanical resistance.



Unidirectional, Biaxial or Quadriaxial types will focused the mechanical resistance in the same direction that the reinforcement.

Choose your CompositePatch:

 G10	E - Glass fibre	Complex shapes
	Type: Biaxial +/-45°	Weight: 600g/m ²
	Width: 21 cm	Length: 50cm
 G20	E - Glass fibre	Flat shapes
	Type: Quadriaxial	Weight: 800g/m ²
	Width: 21 cm	Length: 50cm
 C5	Carbon fibre 3k	Complex shapes
	Type: Twill 2x2	Weight: 200g/m ²
	Width: 21 cm	Length: 50cm
 C10	Carbon fibre 12k	Complex shapes
	Type: Biaxial +/-45°	Weight: 400g/m ²
	Width: 21 cm	Length: 50cm
 C20	Carbon fibre 12K	Straight shapes
	Type: Unidirectional	Weight: 450g/m ²
	Width: 21 cm	Length: 50cm
 C30	Carbon fibre 12k	Flat shapes
	Type: Quadriaxial	Weight: 800g/m ²
	Width: 21 cm	Length: 50cm
 B.ADH	STRUCTURAL EPOXY ADHESIVE	
	Adhesion promoter for secondary laminations	
	Density: 1,00 g/cm ³ Viscosity: 3.700 Mpa·s	

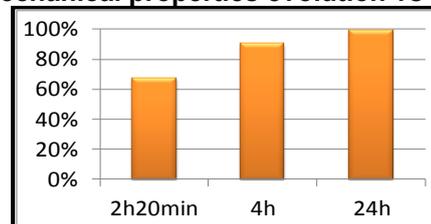


All CompositePatch references are also available in XL size (95 cm) long.

Please notice the evolution of the mechanical properties versus the time. Temperature will affect the final cure time.

Composite Patch will cure even in the lowest temperature or under water or snow, but cure time would be affected by the application temperature.

Mechanical properties evolution vs Time



90% of the properties are obtained after 4h at 25° C



You can download all the technical data sheet, and find all our video application at:
www.compositpatch.com

3. SELECT YOUR REPAIR PROCESS

Main objective of a structural repair is to fully support applied loads and transmit applied stresses across the repaired area. To achieve this objective plies must be overlapped and be perfectly bonded. Composite Patch recommend 2 different processes to repair your composite part by using Composite Patch:

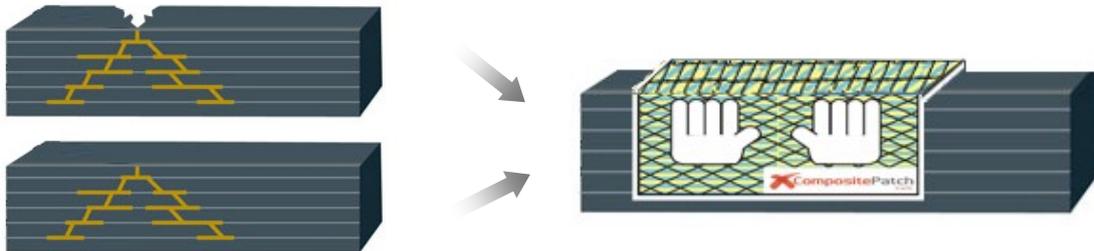
- **Direct Patch Repair.** It is the easiest way to use Composite Patch. Just sand, clean the surface and apply Composite Patch. Your reparation can be finished in a few minutes and you don't need special tools. It is ideal for emergency repairs.

ADVANTAGES

Simple and easy
Fast
No specific skills needed

DISADVANTAGES

Final result is thicker than the original part



- **Two steps Patch Repair.** This is a 2 steps way to repair. It is perfect for a long life repair.

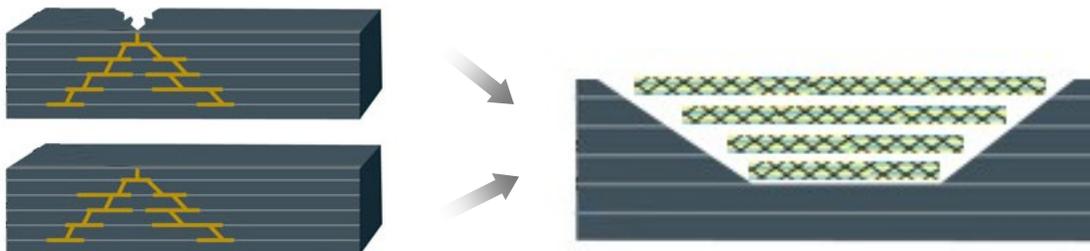
- 1st step: Sand the damage area in order to expose a section of each ply of original lamination
- 2nd step: Applied the Composite Patch in the area.

ADVANTAGES

Final result is almost same thickness than the original part
Good bonds are achieve on the freshly exposed surface

DISADVANTAGES

Specific skills needed
Long process time



Please be sure that all the damage areas are exposed after sand the part. Optionally an adhesive can be use before apply the Composite Patch in order to improve even more the adhesion.

4. HOW TO USE YOUR COMPOSITE PATCH?

<p>1</p> <p>REMOVE CLIP n° 1</p>	<p>Tip: if you need to cut the patch into different pieces for your repair, measure the sizes you will need and draw them with a permanent marker onto the plastic pouch before mixing the resin.</p>
<p>2</p> <p>MIX UNTIL COLOR IS HOMOGENEOUS</p>	
<p>3</p> <p>REMOVE CLIP n° 2</p>	<p>4</p> <p>USE CLIP TO SPREAD THE RESIN ALL OVER THE FIBRE</p>
<p>Tip: it is very effective to roll the patch on itself and apply pressure with the hands once spread the resin onto the fibre in order to facilitate the fiber impregnation evenly.</p>	<p>5</p> <p>CUT & OPEN THE PLASTIC</p>

6.1 ABOVE WATER

APPLY

6.2 UNDER WATER

<p>SPREAD BONDING ADHESIVE</p>	<p>APPLY *adhesive side on substrate</p>
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For more information please visit our website:

www.compositepatch.com