

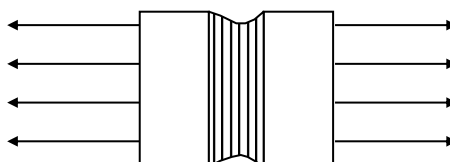
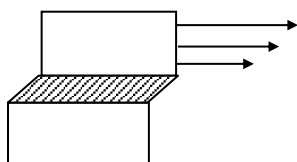
Veralite[®] - Bonding

Veralite[®] has a high surface tension which makes every pretreatment unnecessary before the bonding of it.

Following guidelines on bonding :

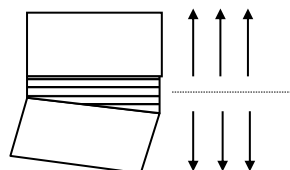
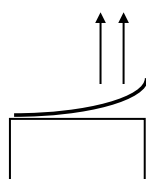
- The surface to bond needs to be clean and free of contamination. To clean this surface, it is advised to use 10 % ethanol in a watersolution or a mixture of iso-propanol and water or a washing benzine
- Bonding strength is proportional to : pressure time and pressure force.
- Bonding is preferred in the tearing or slipping direction rather than in the peeling or cleaving direction, in order to have a strong bonding force. (see drawing)

**Slipping
direction**



**Tearing
direction**

**Peeling
direction**



**Splitting
direction**

Bonding types with filling properties :

- Hot-Melt types
- Polyurethane glues
- Epoxy 2 component glues, PVC (hard) adhesives and double coated acrylic foam tapes.

Veralite[®] 200 is easy bondable, whereas Veralite[®] 100, is more susceptible to whitening (crystallising), because of the higher chemical resistance.

Bonding of Veralite[®] 100 on :

Bonding type	Ver 100	Reference
Adhesive	VG/T	Lorenz Chemie MR-AP/35
Adhesive	VG/T	Lorenz Chemie SR-AP/49

Bonding of Veralite[®] 200 on :

Bonding type	Ver 200	Ver 100	Pmma/C	Pmma/XT	PC	PS clear	PS col.	Pvc-clear	Pvc foam.	Pvc stru.	Reference
CH ₂ CL ₂	VG/T*	VG	VG/T*	G/T*	VG/T*	G/T*	G/T*	VG/T*	VG/T*	G/T*	Methylene
MEK	VG/T**	A	A	G/T**	VG	G/T**	G/T**	VG/T**	VG/T**	VG/T**	-
PVC (hard adh.)	VG/T*	G/T*	VG/T*	VG/T*	VG/T*	G/T*	G/T*	VG/T*	VG/T*	VG/T*	Bison, Pattex, ...
Contact adhesive	G-VG	G-VG	G	G	-	G	G	G	G	G	Bison, Henkel, ...
Epoxy 2 comp.	VG/T	A/T	A/T	P	-	A/T	A/T	P	P	P	Bison
UV-adhesive	VG/T**	G/T**	-	P	-	-	-	-	-	-	Loctite 305
Adhesive	VG/T	VG/T	G/T**	P	-	P	A/T**	VG/T**	VG/T**	P	Lorenz Chemie MR-AP/35
Adhesive	VG/T	VG/T	G/T**	P	-	P	A/T**	VG/T**	VG/T**	P	Lorenz Chemie SR-AP/49
Cyano acrylate	VG/T**	VG/T**	VG/T**	VG/T**	VG/T**	VG/T**	VG/T**	VG/T**	P	P	Loctite406/3M E1100/Evot.TC731
Polyurethane	VG	VG	-	-	-	-	-	-	-	-	Henkel/Bison
D-coat.acr.f-tape	A/T	A/T	A/T	A/T	A/T	A/T	A/T	A/T	A/T	A/T	AFT4932/AFT4952/ATTF9460PC
Extrufix	VG/T	P	VG/T	VG/T	-	-	-	VG/T	-	-	Evo-Plas/Evode
Sicomet 40	VG	-	-	-	-	-	-	-	-	-	Henkel
Sicomet 77	VG	-	-	-	-	-	-	-	-	-	Henkel
Ruplo M 804	VG/T*	-	-	-	-	-	-	-	-	-	Ruplo Holand
Hot Melt types	A	A	A	A	A	A	A	A	A	A	EastobondA747S/Thermelt2157
2 component PU	VG/T	G/T	VG/T	VG/T	-	-	-	-	-	-	Acrifix 200-(Röhm)-HE1908(Evode)
Silicone	G/T*	G/T*	-	-	-	-	-	-	-	-	Omnivisc 1050/Evo Stick
Parasilico	G	G	-	-	-	-	-	-	-	-	DL Chemicals (non transparent)
Parabond 600	G	G	-	-	-	-	-	-	-	-	DL Chemicals (white)
Ruderer 118	VG/T**	VG/T**	-	-	-	-	-	-	-	-	Ruderer (Dtsl)

LEGEND	VG	= very good bonding strength ($\geq 2\text{N/mm}^2$)	T	= optically transparent
	G	= good bonding strength ($> 1\text{N/mm}^2 < 2\text{N/mm}^2$)	T*	= optically transparent in case of edge-bonding
	A	= Acceptable bonding strength ($> 0,5\text{N/mm}^2 \leq 1\text{N/mm}^2$)	T**	= transparent when the surfaces to be bonded are
	P	= Poor bonding strength ($< 0,5\text{N/mm}^2$)		<15 mm and high pressure is exercised.
			NT	= non transparent; white

Bonding may cause loss of impact resistance.(especially with solvent or cyano-acrylic bonding)

Bonding of cold bent sheets is not advised (stress may cause cracking).

Proper testing is advised before bonding printed sheets.

When sheets have been diecutted or sheared, it is not advised to bond on the edges of the sheet when using cyano-acrylic or solvent bonding agents.

This causes stress in the sheet, which can result in cracking.
(Avoid bonding on the edge areas)

Solvent bonding :

For precision work on small objects, you can use a hypodermic needle, allowing the solvent to flow throughout the area to be cemented.

When using the edge-dipping method, you need to dip the sheet into a shallow pan until it becomes soft.

Solvent boiling points :

Methylenedichloride :	40,5 °C
Acetone :	56,5 °C
Chloroform :	61,1 °C
M.E.K. :	79,7 °C

Solvents with a low boiling point may cause whitening and improper joints.

To prevent early evaporation, use a mixture of MEK (42%) and Trichlorethylene (42%).

Special attention should be paid to avoid the formation of air bubbles in the bond after curing.