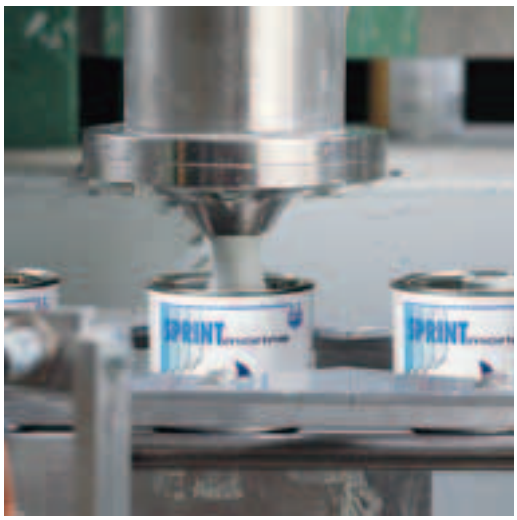
MARINE

The whole ICR production in a complete and updated survey. An extremely wide range of products deriving from a perfect synergy of technological specialization, industrial chemical know-how and marketing experience. Such a various offer is the result of a constant research



on new manufacturing formulas and top-quality standards that ICR has always been pursuing, making of its bent for innovation a consolidated success factor.

INDUSTRIA CHIMICA REGGIANA

Certified Quality System UNI EN ISO 9001:2000

THE PRODUCTION OF GLASS REINFORCED PLASTIC BOATS

GRP Boats Production

The production of GRP boats can be divided into 5 phases:

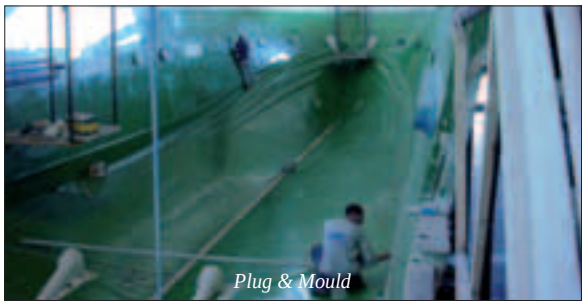
- Plug construction
- Mould construction
- Lamination
- Assembly
- Bodywork

Plug construction

The plug is obtained by building a framework made of wood, polystyrene or polyurethane whose surface will then be coated with putty, fiberglass-reinforced plastic or paint: the materials chosen will depend on the size and number of moulds to be produced.
A good quality plug (male part) will have a coating of uniform thickness, very high surface hardness, and will be finished off in a workmanlike manner.
The characteristics will be faithfully reproduced on the surface of the subsequent mould (female part).

Mould construction

Mould construction begins by applying dismantling wax on the model so that this latter can be subsequently dismantled. The process continues by applying a film of polyester or vinylester gelcoat and following layers of matting and fabric, adequately impregnated with resin, until the planned thickness and rigidity have been obtained.
A mould that has been correctly designed and made will be able to reproduce a great number of high quality blanks that can be repeated whenever required.


Plug & Mould


Lamination

Lamination

The production of laminates reflects the mould construction process. Articles made with good quality materials and controlled impregnation processes require fast assembly and finishing operations.

Assembly

A medium or large sized watercraft consists of tens of laminates, matched-moulds and "detached pieces" which are joined together in different ways: assembly using glues, bonding with structural adhesives, banding with reinforcing fabric.

Bodywork

The bodywork department carries out all the assembly and banding operations. It is also the place where defects are eliminated and the products subjected to a final sanding and polishing phase. Incorrect use of the materials in this department (glue that is not very hard, stopper subjected to excessive shrinkage, etc.) will create defects that are not immediately visible but that will become evident within a very short time.


Assembly


Bodywork

ICR PRODUCTS IN THE GRP BOATS PRODUCTION PROCESS

Plugs

Usually, the framework of the plug is assembled and the wooden panels fixed to the garboards with thixotropic glue with a high bonding power and low shrinkage.

The shaped wooden panels are coated with stopper that can be easily applied by knife. It can also be easily sanded and worked within a reasonable time.

When the putty has fully polymerized, the articles are sanded with abrasives. At the end of the process, the surface of the model will be even and very hard, ready to be coated with sprayed finishing stopper: this product must be quick to apply, easily sanded and polished in order to be the ideal base for the construction of the mould. To get an even better surface quality, putty can be overcoated with a glossy top coat.

Lamination

After the gelcoat has been applied, the next phase in the production of a GRP laminate is the stratification with mat and fabrics of different characteristics and weight. These layers are impregnated with resin until the required thickness has been obtained.

Some of the linking radius are undersized in many articles: owing to lack of space, the operator will be unable to position the first mat in direct contact with the gelcoat. Special, very hard, easily workable glues that do not shrink are used to get over this processing error, which often gives rise to bubbles and defects requiring great labour to eliminate them. To reduce the weight of the articles while maintaining excellent mechanical characteristics, sheets of light and resistant core materials (such as PVC, balsa, termanto) are glued to the external skin. Specific bonders with

high adhesive power and low weight density (from 0.7 to 1.3 kg per liter) are used to fix these.

The laminate is completed by stratifying the "internal skin" which will be subsequently reinforced with floor plates and longitudinal members: these medium-density polyurethane structures can be positioned with glue and then laminated with resin-impregnated fabrics.

Assembly

All the GRP laminates of a boat are assembled together with very hard, low shrinkage thixotropic glues.

The hull and deck are always fixed together with bolts and rivets.
To ensure the watertight, hull and deck are sealed outside with structural adhesives or long open time glue and have to be banded with fabrics outside.

The bulkheads, which are normally built of marine plywood (small boats) and with sandwich panels for medium-large craft, are positioned with glue.
After this, the bulkheads are laminated along their entire perimeter with resin-impregnated fabric.

Bodywork

For the joining of the laminates, hard and thixotropic glues are applied for filling the space; to form a continuous and uniform surface, low shrinkage putties are then applied before the touching up with gelcoat. .

ICR PRODUCTS RANGE FOR MARINE APPLICATIONS

ICR's tried-and-tested technical experience with glues, putties and bonders and their use in the nautical sector allows the performances of the individual processes to be optimized by use of the following products:

Reinforced Putties

- *P25 - Filling vinylester reinforced putty*
- *P05 - Low-shrinkage filling bonder*
- *P26 - Low-shrinkage filling bonder-soft*
- *P23 - Low-shrinkage filling bonder-soft*
- *P50 - General Purpose reinforced putty*
- *P54 - Reinforced putty with fibres*
- *P57 - Reinforced putty with microfibers*

Putties

- *S08 - Ultra light vinylester filler for hulls*
- *S11 - Vinylester putty for hulls*
- *S12 - Vinylester putty for hulls*
- *F23 - Vinylester spray filler*
- *S14 - Finishing Putty*
- *S15 - Finishing Putty*
- *S71 - Multipurpose putty*
- *S97 - Medium weight putty*
- *F21 - Spray polyester putty*

Bonder

- *P11 - Light Bonder for panels*
- *P01 - Light Bonder for panels*
- *P07 - Ultra-light Bonder for panels*
- *P24 - General Purpose Bonder*

Compounds

- *LPM0 - Rubbing compound for Gelcoat*
- *LPME - Heavy duty rubbing compound for Gelcoat*
- *LPV2 - Polishing compound*

PLUGS

Framework assembly
Shaping with spreader
Spray finishing

REINFORCED PUTTIES	PUTTIES
P50 P54 P57	S97 S71 F21

LAMINATION

Filling edges and curves
PVC, Balsa and Termanto cores Bonding
Longitudinal reinforces bonding

REINFORCED PUTTIES	BONDERS
P25 P05 P23 P50 P54 P26	P11 P01 P07 P24

ASSEMBLY

Bulkheads positioning
Match-moulds, walls and ceilings bonding
Hull and deck joining

REINFORCED PUTTIES
P05 P23 P50 P54 P57

BODYWORK

Bulwarks, walls and ceilings levelling
GRP levelling
Joints finishing
Scratches filling
Gelcoat surfaces compounding
Gelcoat polishing

REINFORCED PUTTIES	PUTTIES	ABRASIVE PASTES
P25 P50	S08 S11 S12 S14 S15 F23	LPM LPV

P25 POLIVIR 'VE'
FILLING VINYLESTER REINFORCED PUTTY

Description

Vinylester resins reinforced with organic fibers, glass fibers (max length 3 mm) and mineral charges.

Main Features

- high resistance to osmosis
- thixotropic, no sagging by vertical application
- high mechanical properties
- optimum adhesion
- optimum flexibility

Recommended uses

P25 is expressly formulated to repair anti-osmosis laminates. It can be used in processes such as:
- Hulls' joining
- Repairing of surfaces damaged by osmosis
- Filling of small-medium radius edges and curving

Hardeners

P25 is a two-component reinforced putty which must be accurately mixed with the specific C08 hardener (Cyclohexanone peroxide).

Catalysis ratio

P25 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Properties

When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:

Reinforced putty P25 with Liquid Hardener C08		
Property	*u.m.*	*Value*
Colour	-	viracolour
Gel Time	min	40 ± 5,0
Specific weight	kg/L	1,30 ± 0,05
Linear shrinkage[1]	%	0
Shore Hardness D	D	70
Water absorption[2]	%	0,5
Min. sanding time	min	270
Exothermic peak	°C	76
Tg (after 2 hours at 80°C)[3]	°C	70
HDT (after 2 hours at 80°C)[4]	°C	80

Packaging

P25 is supplied in:
- drums containing 25 kg net
- drums containing 250 kg net

Storage

Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1] ASTM D2566
[2] UNI EN ISO 62
[3] DSC Test at 20°C/min under N_2, ISO 11357
[4] DMA Test, ASTM D648-01

P05 POLIVIR WITH FIBRES
LOW-SHRINKAGE FILLING BONDER

Description
Colours-changing bonder based on unsaturated polyester resins and fibres.

Main Features
- shrinkage near to zero
- easy to apply
- high degree of hardness

Recommended uses
P05 is a bonder formulated for use on fiberglass parts. It can be used for:
- filling of edges and curves of medium-small radius.

Hardeners
P05 is a two-component bonder which must be accurately mixed with the specific C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
P05 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Properties
When the product is applied, it will assume mechanical properties that depend on the type of hardener used and the temperature at which the process has been carried out. The characteristics measured at 20°C are:

Reinforced putty P05 with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	viracolour
Gel Time	min	55 ± 15
Specific weight	kg/L	1,30 ± 0,05
Linear shrinkage[1]	%	0,01
Shore Hardness D	D	73
Exothermic peak	°C	86
Tg (after 2 hours at 80°C)[2]	°C	44
HDT (after 2 hours at 80°C)[3]	°C	55
Tensile Modulus of elasticity[4]	MPa	3027
Flexural Modulus of elasticity[5]	MPa	3917

Packaging
P05 is supplied in:
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 1 year from the date of shipment.

[1]ASTM D2566
[2]DSC Test at 20°C/min under N_2, ISO 11357
[3]DMA Test, ASTM D648-01
[4]Dynamometer Test, ISO 527-1
[5]Dynamometer Test, UNI EN ISO 178

P26 POLYFIBRE SOFT TX
LOW-SHRINKAGE FILLING BONDER-SOFT

Description
Filler bonder consisting of unsaturated polyester resins and fibres.

Main Features
- no vertical dripping
- very easy to apply
- optimum hardness
- good flexibility

Recommended uses
P26 is a specifically-formulated filler bonder for the production and repair of fibreglass items. It is excellent when used for:
- filling of edges and curves of medium-small radius.

Hardeners
P26 is a two-component filler bonder and must be mixed thoroughly with the specific liquid hardener MEKp (methyl ethyl ketone peroxide).

Catalysis ratio
P26 bonder must be mixed with a percentage of hardener taking the current room temperature where it will be used into account.
Never work at temperatures below 5° C.

Catalysis and Temperature	*MEKp Liquid Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
above 20° C	1,0%

Properties
After application, the properties of the bonder vary according to the type of hardener and the working temperature. At 20° C, the specifications of P26 bonder are illustrated in the table below.

P26 filler bonder with 2% MEKp Liquid Hardener

Property	*u.m.*	*Value*
Colour	-	neutral
Gel Time	min	65 ± 15
Specific weight	kg/L	1,50 ± 0,05
Linear shrinkage[1]	%	0,3
Shore Hardness D	D	73
Tg (after 2 hours at 80°C)[2]	°C	91

Packaging
P26 filler bonder is supplied in:
- 25 kg drums (net weight).

Storage
Store in the original, sealed packaging at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1]ASTM D2566
[2]DSC Test at 20°C/min under N_2, ISO 11357

P23 POLIVIR FIBRATO SOFT
LOW-SHRINKAGE FILLING BONDER-SOFT

Description
Colour-changing filler bonder made with unsaturated polyester resins and fibres.

Main Features
- shrinkage close to zero
- very easy to apply
- optimum hardness
- good flexibility

Recommended uses
P23 is a specially-formulated filler bonder for the production and repair of fiberglass items. It is excellent when used for:
- filling edges and small-medium radius.

Hardeners
P23 is a two-component filler bonder and must be mixed thoroughly with the specific liquid hardener C08 (Cyclohexanone peroxide).

Catalysis ratio
P23 bonder must be mixed with a percentage of hardener taking the current room temperature where it will be used into account.
Never work at temperatures below 5°C.

Catalysis and Temperature	*Hardener Liquid C08*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
above 20° C	1,0%

Properties
After application, the properties of the bonder vary according to the type of hardener used and the working temperature. At 20° C, the specifications of P23 bonder are illustrated in the table below.

P23 filler bonder with C08 Liquid Hardener

Property	*u.m.*	*Value*
Colour	-	Light Blue viracolour
Gel Time	min	60 ± 20
Specific weight	kg/L	1,40 ± 0,05
Linear shrinkage[1]	%	0,1
Shore Hardness D	D	73
Tg (after 2 hours at 80°C)[2]	°C	74
HDT (after 2 hours at 80°C)[3]	°C	67
Tensile modulus of elasticity[4]	MPa	1930

Packaging
P23 is supplied in:
- 4 L tins
- 25 kg drums
- drums containing 250 kg net

Storage
Store in the original, saled packaging at a temperature below 20°C. Do not expose to heat or sunlight. The product will remain stable for 1 year after shipment in these conditions.

[1]ASTM D2566
[2]DSC Test at 20°C/min under N_2, ISO 11357
[3]DMA Test, ASTM D648-01
[4]Dynamometer Test, ISO 527-1

P50 TEX FIBERGLASS
GENERAL PURPOSE REINFORCED PUTTY

Description
Putty based on unsaturated polyester resins, reinforced with glass fibers and mineral charges.

Main Features
- optimum workability
- easily sanded
- good degree of hardness
- optimum mechanical strength

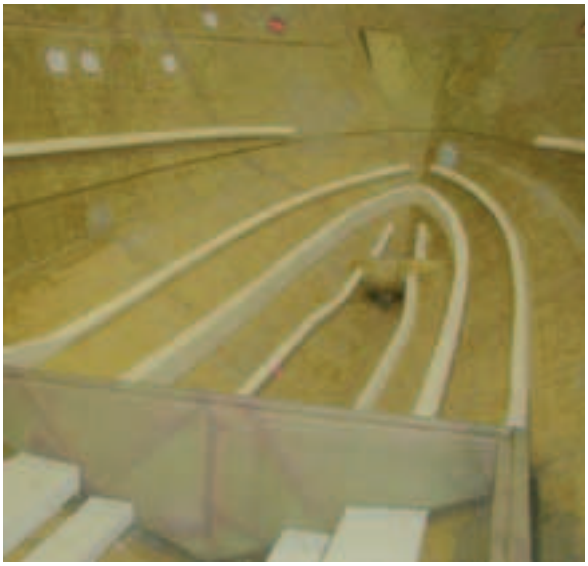
Recommended uses
P50 has been formulated for assembling glass-reinforced plastic and different materials together. It can be used in processes such as:
- Positioning bulkheads when the interiors are assembled
- Gluing match-moulds, walls and ceilings
- Stoppering the hull and parts in fiberglass-reinforced plastic

Hardeners
P50 is a two-component reinforced putty which must be accurately mixed with the specific C10 paste hardener (Dibenzoyl peroxide).

Catalysis ratio
P50 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C10 Paste Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:



Reinforced putty P50 with Paste Hardener C10

Property	*u.m.*	*Value*
Colour	-	grey-green
Gel Time	min	60 ± 1,0
Specific weight	kg/L	1,48 ± 0,10
Linear shrinkage[1]	%	0,180
Shore Hardness D	D	65
Water absorption[2]	%	2,4
Min. sanding time	min	40
Tg (after 2 hours at 80°C)[3]	°C	102
HDT (after 2 hours at 80°C)[4]	°C	82
Flexural modulus of elasticity[5]	MPa	3670

Packaging
P50 is supplied in:
- 500 and 750 ml tins
- 4 L tins
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1]ASTM D2566
[2]UNI EN ISO 62
[3]DSC Test at 20°C/min under N_2, ISO 11357
[4]DMA Test, ASTM D648-01
[5]Dynamometer Test, UNI EN ISO 178

P54 PL GREY POLIFIBRE
REINFORCED PUTTY WITH FIBRES

Description
Putty based on unsaturated polyester resins, reinforced with organic fibers, glass fibers up to 3 mm in length and mineral charges.

Main Features
- optimum mechanical properties
- high bond
- good thixotropy

Recommended uses
P54 has been formulated for assembling glass-reinforced plastic panels and joining different materials. It can be used in processes such as:
- Bulkheads positioning
- Tacking longitudinal members to the hull whilst it is being laminated
- Bulwarks, walls and ceilings positioning

Hardeners
P54 is a two-component reinforced putty which must be accurately mixed with the specific C10 paste hardener (Dibenzoyl Peroxide) or C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
P54 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5° C, in which the process is carried out.

Catalysis and Temperature	*C10 Paste Hardener*	*C08 Liquid Hardener*
between 5 and 10° C	3,0%	3,0%
between 10 and 20° C	2,0%	2,0%
over 20° C	1,0%	1,0%

If the C10 hardener is used, do not exceed these percentages. Excessive amounts of hardener can lead to peroxide stains during the finishing phase.

Properties
When the product is applied, it will assume mechanical properties that depend on the type of hardener used and the temperature at which the process has been carried out. The characteristics measured at 20°C are:

P54 Reinforced putty		*C10 Paste Hardener*	*C08 Liquid Hardener*
Property	*u.m.*	*Value*	
Colour	-	grey	
Gel Time	min	7,5 ± 2,5	28 ± 7,0
Specific weight	kg/L	1,66 ± 0,10	
Linear shrinkage[1]	%	0,240	0,200
Shore Hardness D	D	70	70
Min. sanding time	min	30	120
Exothermic peak	°C	78	62
Tg (after 2 hours at 80°C)[2]	°C	-	65
HDT (after 2 hours at 80°C)[3]	°C	-	57
Tensile Modulus of elasticity[4]	MPa	-	3535
Flexural Modulus of elasticity[5]	MPa	-	5431

Packaging
P54 is supplied in:
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1]ASTM D2566
[2]UNI EN ISO 62
[3]DSC Test at 20°C/min under N_2, ISO 11357
[4]Dynamometer Test, UNI EN ISO 527-1
[5]Dynamometer Test, UNI EN ISO 178

P57 PL POLIERRE
GLUE REINFORCED WITH MICROFIBRES

Description
Putty based on unsaturated polyester resins, reinforced with special microfibers and lamellar charges.

Main Features
- *optimum workability*
- *reaches a high degree of hardness*
- *good mechanical strength*

Recommended uses
P57 is a reinforced putty formulated for assembling fiberglass-reinforced plastic panels and gluing different materials. It can be used in processes such as:
- *Bulkheads positioning*
- *Match-moulds, walls and ceilings gluing*

Hardeners
P57 is a two-component reinforced putty which must be accurately mixed with the specific C10 paste hardener (Dibenzoyl Peroxide) or C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
P57 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C10 Paste Hardener*	*C08 Liquid Hardener*
between 5 and 10° C	3,0%	3,0%
between 10 and 20° C	2,0%	2,0%
over 20° C	1,0%	1,0%

If the C10 hardener is used, do not exceed these percentages. Excessive amounts of hardener can lead to peroxide stains during the finishing phase.

Properties
When the product is applied, it will assume mechanical properties that depend on the type of hardener used and the temperature at which the process has been carried out. The characteristics measured at 20°C are:

P57 Reinforced putty		*C10 Paste Hardener*	*C08 Liquid Hardener*
Property	*u.m.*	*Value*	
Colour	-	grey	
Gel Time	min	4,5 ± 1,5	27 ± 5,0
Specific weight	kg/L	1,7 ± 0,10	
Linear shrinkage[1]	%	0,950	0,790
Shore Hardness D	D	78	78
Min. sanding time	min	70	360
Exothermic peak	°C	72	65
Tg (after 2 hours at 80°C)[2]	°C	65	65
HDT (after 2 hours at 80°C)[3]	°C	65	60

Packaging
P57 is supplied in:
- 6,800 kg tins
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 1 year from the date of shipment.

[1] ASTM D2566
[2] DSC Test at 20°C/min under N_2, ISO 11357
[3] DMA Test, ASTM D648-01

S08 LIGHT FILLER FOR 'VE/L' FINISH
ULTRA LIGHT VINYL ESTER FILLER FOR HULLS

Description
High performance filler for work on hulls, made with vinyl ester resins and ultra fine mineral fillers.

Main Features
- easy to apply
- excellent adhesion on gelcoat and laminates
- easy to sand
- optimum resistance against hydrolysis
- can be used with dark topcoats (blue, black).

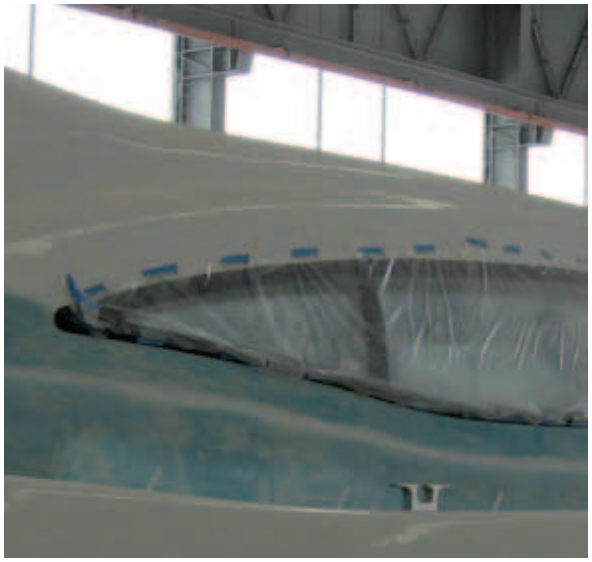
Recommended uses
- for finishing fibreglass items. For the first layer of surfaces, for the elimination of surface flaws. For finishing joints.
- several coats may be applied until the required thickness is achieved.
- may be applied over fibreglass or gelcoat primers.
- may be applied over polyester gelcoats as a topcoat.

Hardeners
S08 is a two-component filler that must be mixed thoroughly with the specific liquid hardener C08 (Cyclohexanone peroxide) or Perexter B18 (MEKP).

Catalysis ratio
S08 filler must be mixed with a percentage of hardener taking the current room temperature where it is will be used into account, never below 5°C. Make sure it is applied on surfaces at least 3° C above dew point.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	2,0%
between 10 and 20° C	1,5%
above 20° C	1,0%

Properties
After application, the mechanical properties of the filler very according to the type of hardener used and the working temperature. At 20°C, the specifications are:



S08 filler with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	white
Gel Time	min	35 - 40
Specific weight	kg/L	0,8 ± 0,10
Linear shrinkage[1]	%	0,6
Shore Hardness D	D	70
Min. sanding time	min	120
Water absorption[2]	%	2,15
Adhesion on gelcoat[3]	MPa	5
Tensile modulus of elasticity[4] (after 2 hours at 80°C)	MPa	3174
Tg[5] (after 2 hours at 80°C)	°C	110
HDT[6] (after 2 hours at 80°C)[7]	°C	91

Packaging
S08 filler for hulls is supplied in:
- 4 L tins
- 15 kg drums

Storage
Store in the original, sealed packaging at a temperature below 20°C. Do not expose to heat or sunlight. The product will remain stable for 4 months after shipment in these conditions.

[1]ASTM D2566
[2]UNI EN ISO 62
[3]ASTM D4541
[4]DMA Test at 2°C/min, 1Hz
[5]DSC Test at 20°C/min under N_2, ISO 11357
[6]ASTM D648

S11 GEL FILLER FOR FINISHING 'VE/L'
HIGH PERFORMANCES PUTTY FOR HULLS

Description
High-performances putty based on vinylester resins and very fine mineral charges.

Main Features
- very easy to apply
- no shrinkage
- high hardness

Recommended uses
S11 is a putty formulated for filling and repairing hulls laminated with vinylester resins; ideal for levelling hulls before the gel-coat final touch. S11 can be used for:
- finishing hulls
- finishing aesthetic joints

Hardeners
S11 is a two-component putty which must be accurately mixed with the specific C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
S11 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	2,0%
between 10 and 20° C	1,5%
over 20° C	1,0%

Properties
When the product is applied, the putty will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:

Putty S11 with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	white
Gel Time	min	35 - 40
Specific weight	kg/L	1,60 ± 0,10
Linear shrinkage[1]	%	0,05
Shore Hardness D	D	64
Water absorption[2]	%	0,4
Min. sanding time	min	120
Tg (afteer 2 hours at 80°C)[3]	°C	110
HDT (after 2 hours at 80°C)[4]	°C	97

Packaging
S11 is supplied in:
- 4 L tins
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1] ASTM D2566
[2] UNI EN ISO 62
[3] DSC Test at 20°C/min under N_2, ISO 11357
[4] DMA Test, ASTM D648-01

S12 GEL FILLER FOR FINISHING 'VE/P'
HIGH PERFORMANCES VINYLESTER PUTTY FOR HULLS

Description
High-performances putty based on vinylester resins and very fine mineral charges.

Main Features
- very easy to apply
- no shrinkage
- high hardness

Recommended uses
S12 is a putty formulated for filling and repairing hulls laminated with vinylester resins; ideal for levelling and finishing hulls before the gel-coat final touch. S12 can be used for:
- finishing hulls
- finishing aesthetic joints

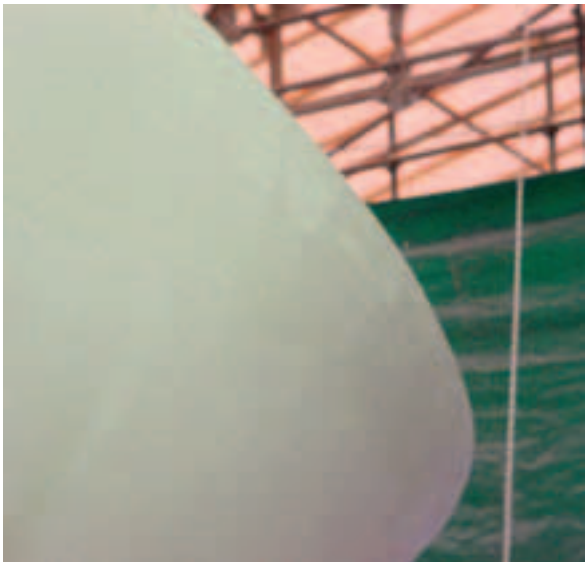
Hardeners
S12 is a two-component putty which must be accurately mixed with the specific C10 paste hardener (Dibenzoyl Peroxide).

Catalysis ratio
S12 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C10 Paste Hardener*
between 5 and 10° C	2,0%
between 10 and 20° C	1,5%
over 20° C	1,0%

Do not exceed these percentages. Excessive amounts of hardener can lead to peroxide stains during the finishing phase.

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:



Putty S12 with Paste Hardener C10

Property	*u.m.*	*Value*
Colour	-	white
Gel Time	min	14 ± 1
Specific weight	kg/L	1,60 ± 0,10
Linear shrinkage[1]	%	0,67
Shore Hardness D	D	64
Min. sanding time	min	15 - 30
Tg (after 2 hours at 80°C)[2]	°C	103

Packaging
S12 is supplied in:
- 4 L tins
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1]ASTM D2566
[2]DSC Test at 20°C/min under N_2, ISO 11357

F23 VINYLESTER SPRAY FILLER
LIGHTWEIGHT VINYLESTER SPRAY FILLER

Description
High performance spray-applied filler for use on surfaces above and below the waterline, made from vinylester resins and very fine grade mineral components.

Main Features
- excellent adhesion on unsaturated polyester resin and vinylester resin based fillers
- high filling power with low specific weight
- easy sanding
- very resistant to hydrolysis
- suitable for cycles including the application of dark colours (such as blue or black).

Recommended uses
- as an intermediate filler for fibreglass articles.

Method of application
- sand the relative surfaces with P100-P120 grade abrasive paper
- degrease throughly with Antisil V09
- apply multiple coats of F23 to achieve maximum thickness of 600 microns for surfaces not requiring alteration; or maximum 800 microns for flat surfaces
- sand F23 with P100-P120 grade abrasive paper then degrease with Antisil V09, following the recommended application times
- apply coats of epoxy primer (e.g. F70 Epoxy Primer Sprint) or 545 Epoxy Primer by Awlgrip on top of the filler, to a dry thickness of 70-80 microns
- continue the painting cycle, up to the application of the polyurethane finish.

Hardeners
F23 is a bi-component filler which must be mixed in precise quantities with the specific C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
F23 filler must be mixed with a percentage of hardener taking the current room temperature where it will be used into account. Never work at temperatures below 10° C.

Catalysis and Temperature	*C08 Liquid hardener*
between 10 and 25° C	2,0%
above 25°C	1,5%

Theoretic yield[1]
600 µm dry = 540 g/m²
800 µm dry = 720 g/m²

Properties
The main properties of F23, at 20°C, are given in the following table.

F23 filler with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	white
Gel Time	min	60
Specific weight	kg/L	0,9 ± 0,10
Shore Hardness D	D	70
Min. sanding time	min	16
Adhesion on UP and VE[2]	MPa	4
Tg (after 2 hours at 80°C)[3]	°C	108

Packaging
F23 hull filler is supplied in:
- 3 L tins

Storage
Store in the original, saled packaging at a temperature below 20°C. Do not expose to heat or sunlight. The product will remain stable for 4 months after shipment in these conditions.

[1]Theoretic yield does not consider material loss due to dispersal during spray application.
[2]*Pull-Off Strength* test, ASTM D4541-02. F23 Measured on S08.
[3] DSC Test at 20°C/min under N_2, ISO 11357

S14 GEL FILLER FOR FINISHING 'PE/L'
HIGH PERFORMANCES POLYESTER PUTTY FOR BODYWORK

Description
Medium weight high-performances putty based on unsaturated polyester resins and very fine mineral charges.

Main Features
- white colour
- easy to sand
- high resistance to chemical agents

Recommended uses
S14 is a putty formulated for finishing glass reinforced plastic panels. S14 can be used for:
- finishing fiberglass reinforced plastic handworks
- finishing aesthetic joints
- eliminating imperfections and scratches from bodywork

Do not exceed 12-14 mm thickness (to be reached after several coats)

Hardeners
S14 is a two-component putty which must be accurately mixed with the specific C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
S14 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5° C, in which the process is carried out.

Catalysis and Temperature	*C08 Liquid hardener*
between 5 and 10° C	2,0%
between 10 and 20° C	1,5%
over 20° C	1,0%

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:

White Putty S14 with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	white
Gel Time	min	38 ± 2
Specific weight	kg/L	1,3 ± 0,03
Linear shrinkage[1]	%	0,61
Shore Hardness D	D	60
Water absorption[2]	%	5,0
Min. sanding time	min	120
Tg (after 2 hours at 80°C)[3]	°C	55
HDT (after 2 hours at 80°C)[4]	°C	54
Tensile modulus of elasticity[5]	MPa	4854

Packaging
S14 is supplied in:
- 4 L tins
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 2 years from the date of shipment.

[1] ASTM D2566
[2] UNI EN ISO 62
[3] DSC Test at 20°C/min under N_2, ISO 11357
[4] DMA Test, ASTM D648-01
[5] Dynamometer Test, ISO 527-1

S15 GEL FILLER FOR FINISHING 'PE/P'
HIGH PERFORMANCES POLYESTER PUTTY FOR BODYWORK

Description
Medium weight high-performances putty based on unsaturated polyester resins and very fine mineral charges.

Main Features
- white colour
- easy to sand
- high resistance to chemical agents

Recommended uses
S15 is a putty formulated for finishing fiberglass surfaces. S15 can be used for:
- finishing fiberglass handiworks
- eliminating imperfections and scratches from bodywork

Do not exceed 6-8 mm thickness (to be reached after several coats).

Hardeners
S15 is a two-component putty which must be accurately mixed with the specific C10 paste hardener (Dibenzoyl Peroxide).

Catalysis ratio
S15 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C10 Paste Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Do not exceed these percentages. Excessive amounts of hardener can lead to peroxide stains during the finishing phase.

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:

White Putty S15 with Paste Hardener C10

Property	*u.m.*	*Value*
Colour	-	white
Gel Time	min	3 ± 1
Specific weight	kg/L	1,3 ± 0,03
Linear shrinkage[1]	%	0,9
Shore Hardness D	D	60
Water absorption[2]	%	0,3
Min. sanding time	min	15/30
Tg (after 2 hours at 80°C)[3]	°C	57
HDT (after 2 hours at 80°C)[4]	°C	84

Packaging
S15 is supplied in:
- 750 ml tins
- 4 L tins
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 2 years from the date of shipment.

[1]ASTM D2566
[2]UNI EN ISO 62
[3]DSC Test at 20°C/min under N_2, ISO 11357
[4]DMA Test, ASTM D648-01

S71 FLEX GRIGIO
MULTIPURPOSE GREY PUTTY

Description
High-performances putty based on unsaturated polyester resins and very fine mineral charges.

Main Features
- grey colour
- easy to sand
- high resistance to chemical agents

Recommended uses
S71 is a putty formulated for the use on different surfaces such as wood and fiberglass. S71 can be used for:
- models shaping
- finishing of fiberglass handiworks

Hardeners
S71 is a two-component putty which must be accurately mixed with the specific C10 paste hardener (Dibenzoyl Peroxide).

Catalysis ratio
S71 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C10 Paste Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Do not exceed these percentages. Excessive amounts of hardener can lead to peroxide stains during the finishing phase.

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:

Grey Putty S71 with Paste Hardener C10

Property	*u.m.*	*Value*
Colour	-	grey
Gel Time	min	4 ± 1
Specific weight	kg/L	1,83 ± 0,10
Linear shrinkage[1]	%	0,61
Shore Hardness D	D	57
Water absorption[2]	%	3,2
Min. sanding time	min	40
Tg (after 2 hours at 80°C)[3]	°C	60
HDT (after 2 hours at 80°C)[4]	°C	70

Packaging
S71 is supplied in:
- 750 ml tins
- 820 ml cartridge
- 4 L tins
- drums containing 28 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 2 years from the date of shipment.

[1]ASTM D2566
[2]UNI EN ISO 62
[3]DSC Test at 20°C/min under N_2, ISO 11357
[4]DMA Test, ASTM D648-01

S97 PUTTY FOR MODELS
MEDIUM WEIGHT PUTTY

Description
High-performance, medium weight putty based on unsaturated polyester resins and very fine mineral charges and micro-balls.

Main Features
- very easy to sand
- low shrinkage
- easy to apply

Recommended uses
S97 is a putty formulated for a variety of surfaces such as wood and fiberglass. It can be used for:
- shaping models with a spreader

Hardeners
S97 is a two-component putty which must be accurately mixed with the specific C10 paste hardener (Dibenzoyl Peroxide).

Catalysis ratio
S97 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C10 Paste Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Do not exceed these percentages. Excessive amounts of hardener can lead to peroxide stains during the finishing phase.

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:

Models Putty S97 with Paste Hardener C10

Property	*u.m.*	*Value*
Colour	-	mustard yellow
Gel Time	min	4 ± 1
Specific weight	kg/L	1,25 ± 0,05
Linear shrinkage[1]	%	0,670
Shore Hardness D	D	65
Min. sanding time	min	40
Tg (after 2 hours at 80°C)[2]	°C	70
HDT (after 2 hours at 80°C)[3]	°C	74

Packaging
S97 is supplied in:
- 1,1 L cartridge
- 4 L tins
- drums containing 25 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 2 years from the date of shipment.

[1]ASTM D2566
[2]DSC Test at 20°C/min under N_2, ISO 11357
[3]DMA Test, ASTM D648-01

F21 FINISHING SPRAY
SPRAY POLYESTER PUTTY

Description
Putty based on unsaturated polyester resins and mineral charges for spray application.

Main Features
- can be applied in thick layers in several coats
- fast drying
- can be polished

Recommended uses
F21 is a putty formulated for the spray finishing of different surfaces. It can be used for:
- plug finishing

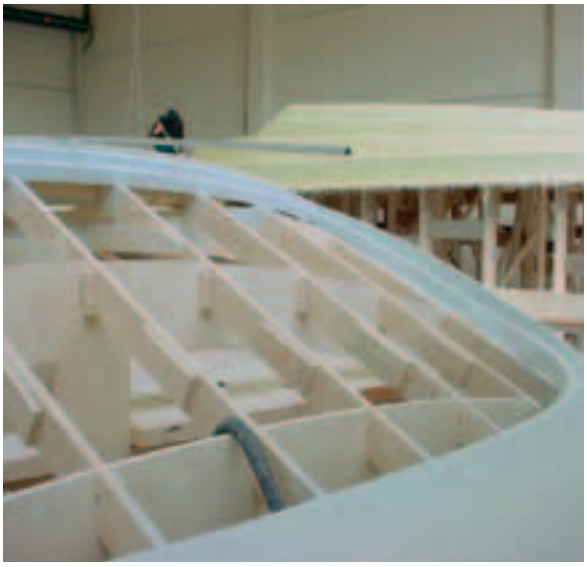
Hardeners
F21 is a two-component putty which must be accurately mixed with the specific C12 liquid hardener (Cyclohexanone peroxide)

Catalysis ratio
F21 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C12 Liquid Hardener*
between 10 and 20° C	5,0%
over 20° C	3,0%

Thinning ratio
If necessary, dilute with D12 Spray Thinner for polyester or max. 5% pure acetone

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:



Spray Polyester Putty F21 with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	dark grey
Gel Time	min	20 ± 8
Specific weight	kg/L	1,60 ± 0,10
Min. sanding time	min	180

Packaging
F21 is supplied in:
- 750 ml tins
- 3 L tins
- drums containing 28 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 2 years from the date of shipment.

P11 POLIBONDER LIGHT 'VE'
LIGHT VINYLESTER BONDER FOR PANELS

Description
Special bonder based on unsaturated vinylester resins, with light reinforcing charges and micro-balls.

Main Features
- very light specific weight
- good resistance to high temperature
- easy to apply
- high bonding power

Recommended uses
P11 is a bonder formulated for gluing core materials and fiberglass panels, where high bonding capacity and low weight are important. It can be used for:
- gluing open-cell PVC parts
- gluing panels made of balsa and termanto

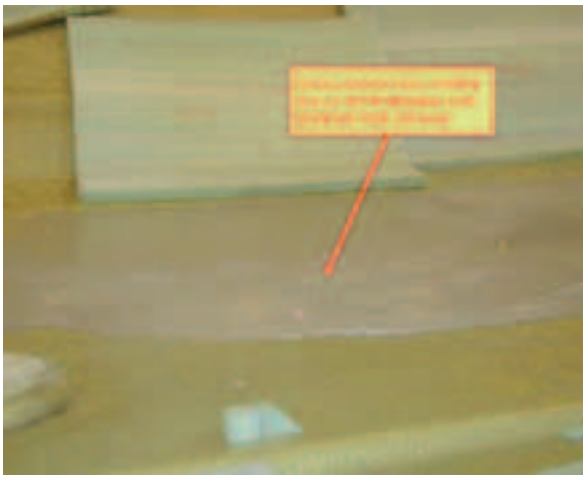
Hardeners
P11 is a two-component bonder which must be accurately mixed with the specific liquid hardener (MEKp Methylethylketone peroxide).

Catalysis ratio
P11 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Yield: *1,5 l/m²*

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:



Light Border P11 with Liquid Hardener MEKp

Property	*u.m.*	*Value*
Colour	-	viracolour
Gel Time[1]	min	50 ± 10
Specific weight	kg/L	1 ± 0,03
Linear shrinkage[2]	%	0
Water absorption[3]	%	0,7
Tg (after 2 hours at 80°C)[4]	°C	100
HDT (after 2 hours at 80°C)[5]	°C	85
Tensile strain at break[6]	%	1,4

Packaging
P11 is supplied in:
- drums containing 15 kg net
- drums containing 175 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1]Gel time 20°C 60 ± 10 min. with 2% hardener C08
[2]ASTM D2566
[3]UNI EN ISO 62
[4]DSC Test at 20°C/min under N_2, ISO 11357
[5]DMA Test, ASTM D648-01
[6]Dynamometer Test, ISO 527-1

P01 POLIBONDER LIGHT SOFT
LIGHT BONDER FOR PANELS

Description
Special bonder based on unsaturated polyester resins, with light reinforcing charges and micro-balls.

Main Features
- very light specific weight (1,0 kg/l)
- easy o apply
- high bonding power

Recommended uses
P01 is a bonder formulated for gluing core materials and fiberglass panels, where high bonding capacity and low weight are important. It can be used for:
- gluing open-cell PVC parts
- gluing panels made of termanto

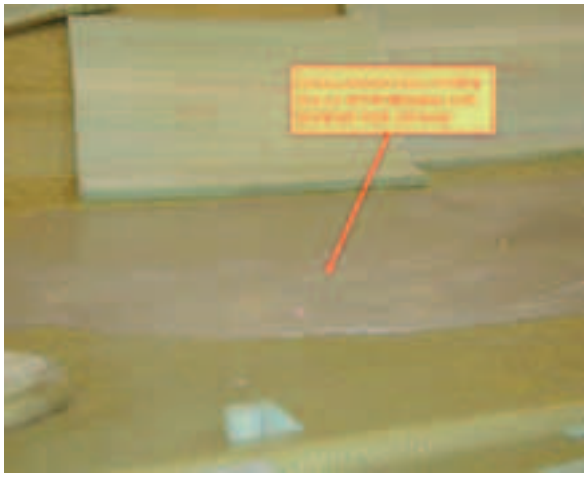
Hardeners
P01 is a two-component bonder which must be accurately mixed with the specific C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
P01 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Yield: *1,5 L/m²*

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:



Light Bonder P01 with 2% Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	viracolour
Gel Time	min	75 ± 25
Specific weight	kg/L	1,00 ± 0,03
Linear shrinkage[1]	%	0,2
Linear shrinkage[2]	%	0,5
Shore Hardness D	D	60
Tg (after 2 hours at 80°C)[3]	°C	75
HDT (after 2 hours at 80°C)[4]	°C	73

Packaging
P01 is supplied in:
- drums containing 15 kg net
- drums containing 175 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 4 months from the date of shipment.

[1]Post-curing: 48 h r.t.
[2]Post-curing: 2h 80°C
[3]DSC Test at 20°C/min under N_2, ISO 11357
[4]DMA Test, ASTM D648-01

P07 ULTRA SOFT POLYBONDER
ULTRA LIGHTWEIGHT PANEL BONDER

Description
Special bonder consisting of unsaturated polyester resins, with ultra lightweight reinforcement components and micro-spheres.

Main Features
- ultra lightweight, with a specific weight of 0.7 kg/L
- very easy to apply
- strong adhesive power

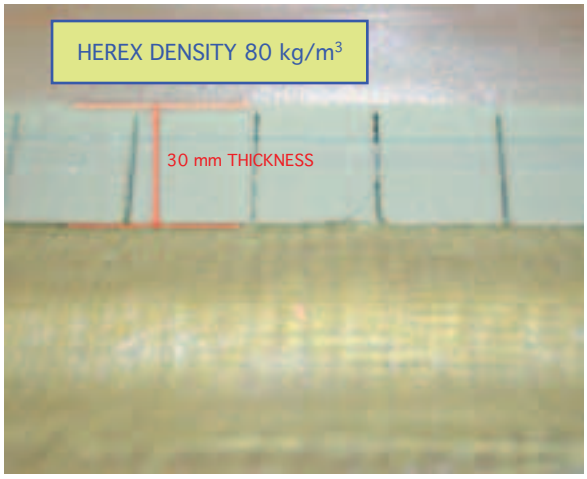
Recommended uses
P07 is a specifically formulated filler bonder for bonding core materials where limited weight and high adhesion properties are essential prerequisites for the quality of the application.
P07 is the ideal product for:
- bonding expanded PVC components
- bonding panels in termanto

Hardeners
P07 is a two-component filler bonder and must be mixed thoroughly with the specific liquid hardener C08 (Cyclohexanone peroxide).

Catalysis ratio
P07 bonder must be mixed with a percentage of hardener according room temperature.
Never work at temperatures below 5°C.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
above 20° C	1,0%

Properties
After application the mechanical properties of the bonder vary according to the working temperature. At 20°C the specifications of P07 are illustrated in the table below.



Ultra-Light weight Border P07 with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	white
Gel Time 20°C	min	40 ± 10
Specific weight	kg/L	0,67 ± 0,03
Linear shrinkage[1]	%	0
Shore Hardness D	D	60
Tg (after 2 hours at 80°C)[2]	°C	63
HDT (after 2 hours at 80°C)[3]	°C	47

Packaging
P07 ultra lightweight bonder is supplied in:
- 10 kg drums (net weight)
- 135 kg drums (net weight)

Storage
Store in the original, saled packaging at a temperature below 20°C. Do not expose at heat or sunlight. The product will remain stable for 4 months after shipment in these conditions.

[1]ASTM D2566
[2]DSC Test at 20°C/min under N_2, ISO 11357
[3]DMA Test, ASTM D648-01

P24 POLIBONDER SOFT
GENERAL PURPOSE BONDER

Description
Colour-changing bonder based on unsaturated polyester resins, suitable for many conditions in which fiberglass-reinforced plastic parts are glued together.

Main Features
- easy to apply
- high degree of hardness
- shrinkage near to zero

Recommended uses
P24 is a bonder especially formulated for gluing parts of fiberglass and other materials, where use of medium-light products is advisable. It can be used for:
- gluing core materials of a medium and small size

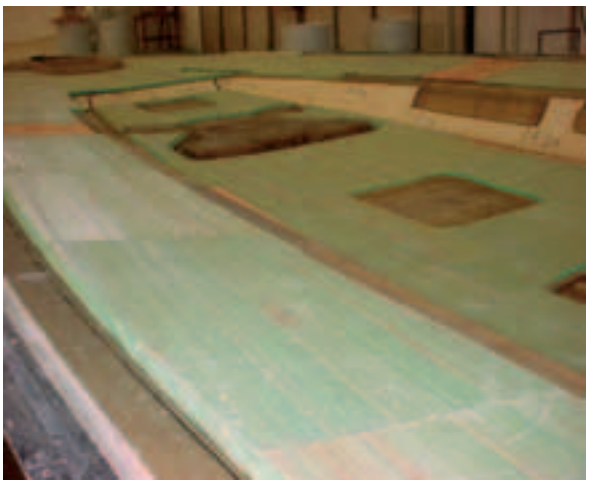
Hardeners
P24 is a two-component bonder which must be accurately mixed with the specific C08 liquid hardener (Cyclohexanone peroxide).

Catalysis ratio
P24 should be mixed with a percentage of hardener that takes into account the ambient temperature, never less than 5°C, in which the process is carried out.

Catalysis and Temperature	*C08 Liquid Hardener*
between 5 and 10° C	3,0%
between 10 and 20° C	2,0%
over 20° C	1,0%

Yield: *1,5 L/m²*

Properties
When the product is applied, it will assume mechanical properties that depend on the temperature at which the process has been carried out. The characteristics measured at 20°C are:



Border P24 with Liquid Hardener C08

Property	*u.m.*	*Value*
Colour	-	viracolour
Gel Time 20°C	min	40 ± 10
Specific weight	kg/L	1,40 ± 0,05
Linear shrinkage[1]	%	0,2
Shore Hardness D	D	70
Exothermic peak	°C	86
Tg (after 2 hours at 80°C)[2]	°C	78
HDT (after 2 hours at 80°C)[3]	°C	73

Packaging
P24 is supplied in:
- drums containing 25 kg net
- drums containing 250 kg net

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 1 year from the date of shipment.

[1]ASTM D2566
[2]DSC Test at 20°C/min under N_2, ISO 11357
[3]DMA Test, ASTM D648-01

LPM RUBBING COMPOUND 'GC'
LPMO MORDANT RUBBING COMPOUND FOR GELCOAT
LPME EXTRA MORDANT RUBBING COMPOUND FOR GELCOAT

Description

Stabilized emulsion in combination with special abrasives with controlled granulometry. LPMO mordant - LPME extra mordant.

Main Features

- *high mordant power. Removes sanding marks or scratches of medium depth.*
- *high viscosity, allows very hard surfaces to be quickly polished*
- *special formula for processes on gelcoat*

Recommended uses

LPM is a compound formulated for compounding gelcoat panels. Due to its mordanting characteristics, LPM compound can be used for :

- *polishing handiworks*
- *polishing moulds and plugs*

Polishing process

- *make sure that the gelcoat is cold before polishing*
- *remove impurities such as dirt or grease from the gelcoat with a cloth soaked in soap and water*
- *place a small quantity of paste on a wool or foam polishing pad*
- *spread the paste evenly over the surface, with the polisher still off*
- *switch on the polisher and adjust the speed to between 800 and 1,500 rpm*
- *start polishing by exercising a light pressure, then progressively reduce it until the paste begins to dry*
- *make several crossed runs in order to remove all the scratches. Do not polish in the same area for very long or the surface will become overheated*

This process will achieve a finish high level of gloss which can be improved if required by a successive treatment with polishing compound.

Physical properties

Colour	*white*
Specific weight	*1,65 ± 0,10 kg/l*

Chemical composition

- *special paraffins*
- *emulsifiers*
- *aliphatic solvents*
- *silica-free abrasives in aluminium oxide*

Thinning

Due to its viscosity, the compound may need thinning. Use petroleum.

Packaging

LPM compound is supplied in

- *2 l tins*

Storage

Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 2 years from the date of shipment.

LPV2 RUBBING COMPOUND NO.2
POLISHING RUBBING COMPOUND

10/2007

Description
Stabilized highly polishing emulsion in combination with special abrasives with fine granulometry.

Main Features
- *provides the utmost gloss thanks to the special mixture of esterificated waxes*
- *removes sanding marks or low depth scratches*

Recommended uses
LPV is a polishing compound formulated for polishing gelcoat and fiberglass panels. It can therefore be used to advantage for:
- *polishing handiworks*
- *polishing moulds*

Polishing process
- *make sure that the gelcoat is cold before polishing*
- *remove impurities such as dirt or grease from the gelcoat with a cloth soaked in soap and water*
- *place a small quantity of paste on a wool or foam polishing pad*
- *spread the paste evenly over the surface, with the polisher still off*
- *switch on the polisher and adjust the speed to between 1,500 and 2,000 rpm*
- *start polishing by exercising a light pressure, then progressively reduce it until the paste begins to dry*
- *make several crossed runs in order to remove all the scratches. Do not polish in the same area for very long or the surface will become overheated*

This process will achieve the maximum high level of gloss which can only be improved by just one successive treatment with polishing compound.

Physical properties
Colour	*white*
Specific weight	*1,78 ± 0,10 kg/l*

Chemical composition
- *esterificated waxes*
- *emulsifiers*
- *aliphatic solvents*
- *polishing abrasives*

Thinning
Owing to its viscosity, the abrasive paste may need thinning. Use petroleum.

Packaging
LPV2 is supplied in:
- *2 l tins*

Storage
Store the product in the original, closed cans at a temperature of less than 20°C, well away from heat sources and sunlight. In these conditions, the product will remain stable for 2 years from the date of shipment.

INDUSTRIA CHIMICA REGGIANA

INDUSTRIA CHIMICA REGGIANA I.C.R. SPA . 42100 REGGIO EMILIA . ITALIA
VIA M. GASPARINI, 7 . TEL. +39 0522 517803 . FAX +39 0522 514384
42025 CAVRIAGO (RE) . ITALIA . VIA NIZZOLA, 5 . TEL. +39 0522 371818 . FAX +39 0522 575110
http: //www.icrsprint.it . e-mail: icr@icrsprint.it

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=