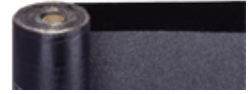


ESTERDAN PLUS 40/GP ELAST.

ESTERDAN PLUS 40/GP ELAST. is a waterproofing bituminous sheet with self-protected surface of 4.0 kg/m², LBM(SBS)-40/G-FP R.

Composed of a reinforced polyester felt reinforcement, covered on both sides with SBS modified bitumen mastic. On the upper side of the sheet, slate in grey (black) colour is used as protective material. The anti-adhesive material used on the lower side is polyethylene film.

Tested according to standard EN test methods.



CE MARKING



Identification number of the Certification Body: 1035

DERIVADOS ASFALTICOS NORMALIZADOS S.A.
Calle La Granja 3 (28108 - Alcobendas, MADRID)

Year in which the CE marking was affixed: 2006
Certificate number CPF: 1035-CPD-ES044104
European standard EN 13707 and EN 13969 (A) y (T) .

Produced at: Polígono Industrial Sector 9 (19290 - FONTANAR, Guadalajara)

Membrane of 1 m x 10 m x 4.0 kg/m² composed of SBS modified bitumen with reinforced polyester felt. Membrane with an upper surface finish of mineral granules and a lower surface finish of polyethylene film. Torch-on application.

| TECHNICAL DATA | VALUE | UNIT | STANDARD |
|---|-----------|-------|-----------------------------------|
| External fire performance | Broof(t1) | - | UNE-EN 1187; UNE-EN 13501-5 |
| Reaction to fire | E | - | UNE-EN 11925-2; UNE-EN 13501-1 |
| Watertightness | Pasa | - | UNE-EN 1928 |
| Longitudinal tensile strength | 700 ± 200 | N/5cm | UNE-EN 12311-1 |
| Transversal tensile strength | 450 ± 150 | N/5cm | UNE-EN 12311-1 |
| Longitudinal elongation at break | 45 ± 15 | % | UNE-EN 12311-1 |
| Transversal elongation at break | 45 ± 15 | % | UNE-EN 12311-1 |
| Resistance to root penetration | No Pasa | - | UNE-EN 13948 |
| Resistance to static loading | > 15 | kg | UNE-EN 12730 |
| Resistance to impact | > 1000 | mm | UNE-EN 12691 |
| Longitudinal resistance to tearing (nail shank) | PND | N | UNE-EN 12310-1 |
| Transversal resistance to tearing (nail shank) | PND | N | UNE-EN 12310-1 |
| Joint strength: peel resistance | PND | - | UNE-EN 12316-1 |
| Joint strength: shear resistance | 450 ± 150 | - | UNE-EN 12317-1 |
| Flexibility at low temperature | < -15 | °C | UNE-EN 1109 |
| Humidity resistance factor | 20.000 | - | UNE-EN 1931 |
| Dangerous substances | PND | - | - |
| Flexibility at low temperature (pliability) after aging | -5 ± 5 | °C | UNE-EN 1109 |
| Flow resistance at elevated temperature after aging | 100 ± 10 | °C | UN-EN 1110 |

Pasa = Positive or correct No pasa = Negative PND = No performance determined - = Not necessary

ADDITIONAL TECHNICAL DATA

| ADDITIONAL DATA | VALUE | UNIT | STANDARD |
|--|-------------|-------------------|---------------|
| Mass per unit area (nominal) | 4.0 | kg/m ² | - |
| Mass per unit area (minimum) | 3.8 | kg/m ² | - |
| Nominal thickness | 2.5(SOLAPO) | mm | - |
| Flow resistance at elevated temperature | > 100 | °C | UN-EN 1110 |
| Dimensional stability at elevated temperature (longitudinal) | < 0.3 | % | UNE-EN 1107-1 |
| Dimensional stability at elevated temperature (transversal) | < 0.3 | % | UNE-EN 1107-1 |
| Adhesion of granules | < 30 | % | UNE-EN 12039 |

Membranes thickness tolerance: = -0,3 mm, apart from membranes with thickness 2 and 2,4 mm whose tolerance is = -0,2 mm.
 Membranes mass per unit area tolerance: -5% (mini) and + 10% (maxi) from nominal value.

DECLARATION OF CONFORMITY


DERIVADOS ASFÁLTICOS NORMALIZADOS S.A.
 Calle La Granja 3 (28108 - Alcobendas, MADRID)

Membrane of 1 m x 10 m x 4.0 kg/m² composed of SBS modified bitumen with reinforced polyester felt. Membrane with an upper surface finish of mineral granules and a lower surface finish of polyethylene film. Torch-on application.

This product is according to the Z.A. Annex of the EN 13707 and EN 13969.

The roll must be stored upright and it has to be pulled for the opposite side to the overlap band. These rolls have to be protected against atmospheric conditions and dampness. The Application cannot be done under temperatures lower than -5 °C.

Certificate number CPF: 1035-CPD-ES044104

José Antonio Manzarbeitia Valle
 Manager Quality and R&D Manager.
 Fontanar, March 01st 2009

STANDARDS AND CERTIFICATION


EN 13707 standard.

EN 13969 standard.

CE marking.

BBA 10/4787 Product Sheet 1 "GLASDAN ELAST, ESTERDAN ELAST AND POLYDAN ELAST ROOF WATERPROOFING MEMBRANES".

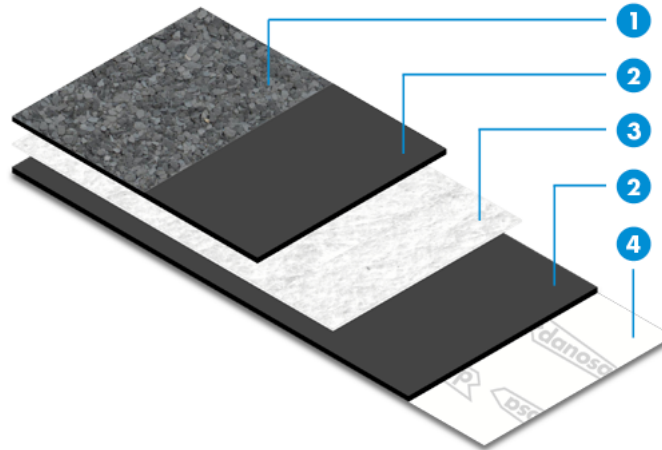
ATE 06/0062 "Esterdan Plus FM Bicapa.

Document Technique d'Application 5/09-2088 "Glasdan ELAST-Esterdan ELAST-Polydan ELAST".

Documento de Aplicação DA14/2007.

PRESENTATION

| PRESENTATION | VALUE | UNIT |
|------------------|---------------------|----------------|
| Length | 10 | m |
| Width | 1 | m |
| Roll surface | 10 | m ² |
| Rolls per pallet | 25 | rolls |
| Product Code | 141222 grey (black) | - |



1. slate
2. SBS modified bitumen
3. reinforced polyester felt
4. polyethylene film

WARNING

The information that appears in the following document makes reference to the uses and utilities of danosa's products and systems, and it is based on the knowledge that have been learnt until present, by Danosa. This is only possible if products have been stored and used in an appropriate way.

Nevertheless, Danosa is not responsible for unsuitable uses of the products neither any other facts, such as meteorological facts. So Danosa is just responsible for the quality related to the provided products.

Danosa reserves the right to carry out modifications without previous notice.

The values that appear in the technical sheet are the results of the tests that have been performed in our laboratory. August 2012.

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