

# SYNOLITE™ 0152-N-2

## CHEMICAL/PHYSICAL NATURE

Synolite™ 0152-N-2 is a medium reactive unsaturated polyester resin based on isophthalic acid. Synolite 0152-N-2 is UV-light stabilized.

## MAJOR APPLICATIONS

Synolite™ 0152-N-2 is recommended for a wide range of pultrusion profiles. Particular where high structural performance and/or good chemical resistance are desirable.

## PRINCIPAL PROPERTIES

Synolite™ 0152-N-2 shows excellent mechanical properties with an optimal balance between resilience and heat deflection temperature.

## APPROVALS

Synolite™ 0152-N-2 meets the DIN 16946 type 1140 requirements.

## PRODUCT SPECIFICATIONS UPON DELIVERY

Property	Range	Unit	TM
Viscosity, 23°C	720 - 950	mPa.s	2013
Color, Lico 200	max 3.0	G	2017
Solids content, IR	61 - 63	%	2033
Appearance	clear	-	2265
Acid value, as such	9 - 14	mg KOH/g	2401

## REMARKS

TM 2013: Z2/100/23°C.

## PROPERTIES OF THE LIQUID RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Color on sight	yellow	-	-
Density, 20°C	appr. 1120	kg/m <sup>3</sup>	2160
Flash point	appr. 33	°C	2800
Stability, no init., dark, 25°C	6	Month	-

## CURING CHARACTERISTICS (TYPICAL VALUES)

Property	Value	Unit	TM
Gel time, 82°C	10 - 12	Minute	2253
Cure time	12 - 14.5	Minute	2253
Peak temperature	200 - 240	°C	2253

## CURING CONDITIONS

2.0 g Perkadox CH-50 in 100 g resin.

## PROPERTIES OF CAST UNFILLED RESIN (TYPICAL VALUES)

Property	Value	Unit	TM
Tensile strength	87	MPa	ISO 527-2
Tensile E-Modulus	3.6	GPa	ISO 527-2
Elongation at break	4.2	%	ISO 527-2
Flexural strength	142	MPa	ISO 178
Heat deflection temp. (HDT)	96	°C	ISO 75-Ae
Impact res. - unnotched sp.	12	kJ/m <sup>2</sup>	ISO 179
Barcol hardness GYZJ 934-1	43	-	DIN EN 59
Density, 20°C	1200	kg/m <sup>3</sup>	DIN 53479
Volume shrinkage	6.9	%	-

## CURING CONDITIONS

0.5 % NL49P and 2% Butanox M-50

Post cure: 24 hrs. at RT followed by 24 hrs. at 60°C and 24 hrs. at 80°C.

## PROPERTIES OF PULTRUDED PROFILE, FLAT BAR 4 X 50 MM (TYPICAL VALUES)

Property	Value	Unit	TM
Glass content	65	%	-
Filler content	6	%	-
Flexural strength	750	MPa	ISO 178
Flexural E-Modulus	23	GPa	ISO 178
Elongation at break	4	%	ISO 527-2
Barcol hardness GYZJ 934-1	52	-	DIN EN 59

## CONDITIONS

Reinforced: 40 x 4800 tex + 2 x 51 mm Unifilo 450 g/m<sup>2</sup>

## TYPICAL STARTING FORMULATION FOR PULTRUSION

Component	Weight
Synolite™ 0152-N-2	100.00
Calcium carbonate	30.00
Internal release agent	1.00
pigment paste (white)	0 - 10
Perkadox 16	0.50
Trigonox 21	0.30
Trigonox C	0.60
additional styrene	0 - 6

## REMARKS ON CURING AGENTS

All curing agents mentioned are AKZO Nobel products:

Perkadox 16 is bis (4-tert-butylcyclohexyl) peroxydicarbonate

Trigonox C is tert-butyl peroxybenzoate.

Trigonox 21 is tert-butyl peroxy 2-ethylhexanoate

Perkadox CH-50 is dibenzoyl peroxide (BPO) 50%

Butanox M-50 is Methyl Ethyl Ketone Peroxide, 50%

NL 49P is Cobalt octoate 1% in phthalate.

## GUIDELINES BEFORE USE

Stir the resin before use.

## STORAGE GUIDELINES

The resin should be stored indoors in the original, unopened and undamaged packaging, in a dry place at temperatures between 5°C and 30°C and the properties might change during storage. Shelf life is reduced at higher temperatures and the properties of the resin might change during storage. The shelf life of styrene containing unsaturated polyesters will be significantly reduced when exposed to light. Store in dark and in 100% light tight containers only.

## MATERIAL SAFETY

A Material Safety Data Sheet of this product is available on request.

## TEST METHODS

Test methods (TM) referred to in the table(s) are available on request.

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