



TECHNICAL DATA SHEET

DION IMPACT 9133-00

PREMIUM VINYL ESTER RESIN

REVISION: DDS0916/041

DESCRIPTION

DION IMPACT 9133-00 is a premium Bisphenol -A epoxy modified vinyl ester resin that is unpromoted and non-thixotropic. It has excellent chemical and corrosion resistance, especially to acids, alkalis and oxidizing agents. Outstanding adhesive properties, as well as good toughness and fatigue resistance make it suitable for the production of tanks, pipes and process equipment.

APPLICATION

DION® IMPACT 9133-00 is suitable for filament winding, general hand and spray lay up as well as pultrusion. Existing steel and concrete surfaces may also be lined with DION IMPACT 9133-00 for improved protection in harsh corrosion environments in the mining and construction sector. The low volatile organic content (VOC) also makes it suitable for use in floor screeds. Due to the very low foaming system standard MEK peroxide such as Butanox® M-50 and Curox® M300 may be used to cure DION IMPACT 9133-00.

FEATURES

- Premium epoxy resin with improved retention of mechanical properties and heat distortion temperature
- Compatible with aramid and carbon fibre
- Low foaming with standard MEKP
- Low colour
- Low volatile content
- Good cure
- Storage stability

BENIFITS

- Excellent chemical resistance to a wide range of corrosive environments
- High strength and good resistance to cracking
- Permits 10-15°C higher design and operation temperatures than conventional vinyl ester resins.
- Excellent fibre wetting
- Permits use of cost effective and easily available catalyst system
- Facilitates laminate inspection
- Reduced VOC and volume shrinkage
- Quick mould turn around with good final cure
- Good shelf life

VARIANTS

	Viscosity(cPs)	Gel time(min)	Application
DION IMPACT 9133-200	310-330	12-24(2phr AC2+2phrButanox M50)	Laminating-thixotropic
DION IMPACT 9133-800	310-330	18-30(2phr Butanox M50)	Laminating-thixotropic
S1706/13	300-500	25-35(2phr Butanox M50)	Casting and laminating
S1706/14	150-250	50-60(1phr AC2+1.5phr Butanox M50)	Marine infusion, low exotherm
S1803/3	100-150	50-60 (1.5phr ACA27+1.5phr Butanox M50)	Thin laminate infusions e.g. canoes

TYPICAL PROPERTIES

PHYSICAL DATA IN LIQUID STATE AT 25°C

PROPERTY	UNIT	SPECIFICATION	TEST METHOD
Volatile Content	%	36 - 39	B070
Viscosity (Brookfield)	cps	400 - 600	ASTM D 2196-86
Gel time: 2phr 1%Cobalt + 2phr Butanox® M50	minutes	9 - 15	G020
Density	g / cm ³	1.04 -1.12	ISO 2811-2001
Acid Value	mgKOH / g	10-30	ISO 2114-1996
Flash point	° C	32	ASTM D 3278-95
Shelf Life, Minimum	months	6	G180
Color	visual	amber	

TYPICAL NON-REINFORCED RESIN PROPERTIES (3mm casting)

PROPERTY	UNIT	SPECIFICATION	TEST METHOD
Tensile strength	MPa	80	ISO 527-2
Tensile modulus	MPa	3350	ISO 527-2
Elongation at break	%	4-6	ISO 527-2
Flexural strength	MPa	135	ISO 178
Flexural modulus	MPa	3400	ISO 178
Heat distortion temperature	° C	112	ISO 75-2
Hardness, Barcol 934-1	-	40	BS 2782-10, Method 1001

GEL TIME GUIDE

DION IMPACT 9133 GEL TIME SUGGESTION WHEN USING NCS ULTRACURE AC-2 AND BUTANOX M50

Temperature (°C)	Gel time (minutes)	AC-2(phr)	AA8E(phr)	N7400(phr)	Butanox M50(phr)
18	15-20	0.8	1		2
	20-40	1	0.3		2
	40-60	1	0.05		2
23	15-20	0.8	0.6		2
	20-40	0.8	0.3		2
	40-60	0.8	0.05		2
28	15-20	1			2
	20-40	1			1.5
	40-60	1		0.05	1.5
33	15-20	1			1.5
	20-40	1.2		0.1	2
	40-60	1		0.1	2

DION IMPACT 9133 GEL TIME SUGGESTION WHEN USING NCS ULTRACURE AC-2 AND BUTANOX LPT

Temperature (°C)	Gel time (minutes)	AC-2(phr)	AA8E(phr)	N7400(phr)	Butanox LPT(phr)
18	15-20	2.2	1		2
	20-40	1.6	1		2
	40-60	1.6	0.4		2
23	15-20	1	1.5		2
	20-40	1	1		2
	40-60	1	0.5		2
28	15-20	1.8	0.25		2
	20-40	1.8			2

	40-60	1.5			1.5
33	15-20	1.4	0.3		2
	20-40	1.4	0.2		1.5
	40-60	1.4	0.3	0.05	1.5

DION IMPACT 9133 GEL TIME SUGGESTION WHEN USING NCS ULTRACURE AC-1 AND BUTANOX M50

Temperature (°C)	Gel time (minutes)	AC-1(phr)	AA8E(phr)	N7400(phr)	Butanox M50(phr)
18	15-20	0.14	1		2
	20-40	0.2	0.15		2
	40-60	0.18	0.1		2
23	15-20	0.13	0.6		2
	20-40	0.13	0.3		2
	40-60	0.13	0.05		2
28	15-20	0.18			2
	20-40	0.17			1.5
	40-60	0.17		0.05	1.5
33	15-20	0.17			1.5
	20-40	0.2		0.14	2
	40-60	0.17		0.07	1.5

DION IMPACT 9133 GEL TIME SUGGESTION WHEN USING NCS ULTRACURE AC-1 AND BUTANOX LPT

Temperature (°C)	Gel time (minutes)	AC-1(phr)	AA8E(phr)	N7400(phr)	Butanox LPT(phr)
18	15-20	0.4	1		2
	20-40	0.2	1		2
	40-60	0.3	0.3		2
23	15-20	0.15	1.5		2
	20-40	0.17	1		2
	40-60	0.15	0.5		2
28	15-20	0.3	0.25		2
	20-40	0.36			2
	40-60	0.3	0.1		1.5
33	15-20	0.23	0.3		2
	20-40	0.3			1.5
	40-60	0.23	0.2	0.07	1.5

Note: The above information is suggested only as a guide. Results may vary during practice depending on application and workshop conditions.

STORAGE AND HANDLING

To ensure maximum stability and maintain optimum properties, DION IMPACT 9133-00 should be stored in closed containers, maintained below 25°C and away from heat sources and sunlight. All storage should conform to local fire and building codes. Drum stock should be kept to a reasonable minimum with first-in, first-out stock rotation. Where bung-in-head containers are stored outside, it is recommended that these be stored in a horizontal position to avoid the ingress of water.

STANDARD PACKAGING

Non-returnable metal drums.
Bulk supplies can be delivered by road tanker

MATERIAL SAFETY DATA SHEET

**PLEASE READ AND UNDERSTAND THE MATERIAL SAFETY
DATA SHEET BEFORE WORKING WITH THIS PRODUCT**

A Material Safety Data Sheet is available from your NCS Resins' representative. Make certain that you obtain a copy of this guide to the safe handling of unsaturated polyester resins and resin systems.

WARNING: CARE MUST BE TAKEN TO AVOID DIRECT MIXING OF ANY ORGANIC PEROXIDE (CATALYST) WITH METAL SOAPS, AMINE OR ANY OTHER POLYMERISATION ACCELERATOR OR PROMOTER, AS VIOLENT DECOMPOSITION WILL RESULT!

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