



Test Report No. 8712253174-a

Customer details:

Customer name: Dayson Group

Date of order: 07/10/2007

Following your order R6002668 dated 31/12/2006

The product was sampled by the: customer

and received in the Lab at: 11/03/2007

(in the frame of order 8712202369)

The test of:

Polymeric bitumenous sealing compound for drinking water supply and storage applications as follows":

Model
DAYSON FAST

Supplier
Dayson Group

Nature of the test:

Full test for use with drinking water according to the Israeli Standard SI 5452 (2004) "Testing of products for use in contact with drinking water" - testing according to the method of the Australian Standard AS/NZS 4020 (2002) for cold water use only (Up to 40° C).

Results:

See further pages.

Summary :

The product in the configuration tested complies for use in the cold drinking water systems with maximum exposure ratio of 1000 (2) mm²/L.

This report is referencing to the test reports 8712202369-a and 8712236126-a.

The test report contains 10 pages
and may be used only in full

The test results in this
document refer only to the item
tested.

Any changes in the material formulation, the process of manufacture, the method of application, or the surface area-to-volume ratio in the end use, could affect the suitability of the product for use in contact with drinking water

The name of the tester: E. Rosebloum

The name of the supervisor: Dr. R. Ardi

Position: Engineer

Position: Head of Food, Wine ~ Environmental Section

1. The specification of the product tested:

1.1 General Information:

Tested product labelling / Commercial Name	DAYSON FAST
Product designation	Sealing for the cold drinking water storage application
Product general composition	Bitumen, Polychlorobutadiene, Turpentine
Manufacturing date	06/2006
Manufacturing LOT	066-27-6210
Product specimen prepared by	Customer (appynig at 13/02/2007)
Product packaging manner	Silicon paper
Specimen status at the arrival to the laboratory	satisfactive
Laboratory storage conditions before the tests	Original packaging, room temperature, at the dark
Components of the products that come in product contact with water	The whole
Product family description:	The product has its one type only
Product model type for testing:	DAYSON FAST
Specimen configuration: structure	Plate casted from the material
Specimen configuration: sizes	110 x 185 mm, thickness 3.4 - 5.0
mm Specimen appearance: color	Black
Specimen appearance: finishing	smooth
Specimen appearance: additional description	soft and sticky compound
Exposure manner	immersion
Additional preparation procedures specified by the manufacturer:	n/a
The description of the article / test system	n/a
Specimen preparation method	spraying
Component mixing ratio	
Application layers description	See the manufacture product specification, edition
Specimen preparation site	210/01-02/06, attached to this document.
Curing conditions description	
Pretest conditioning details	21 ~ at 22±4° ~ and 50-8Q ~

2. Findings summary according to the standard's clauses:

clause	The property	SI 5452 requirements	Test results
6	Test Requirements.		
6.2	Taste of water extract.	Whether product is tested in accordance with Appendix C, there shall not be a reportable taste detected by any member of the test panel in the first dilution of the chlorinated or unchlorinated extract from the first and/or second extraction or from the seventh retest extraction.	Passed for Exposure Ratio 1000 (mm ² /liter)(t)
6.3	Appearance of water extract.	Whether product is tested in accordance with Appendix D, the increase in true colour of the extract shall not be more than 5 HU (Hazen Units) in first extraction or in the seventh retest extraction. Whether product is tested in accordance with Appendix D, the increase in turbidity of the extract shall not be more than 0.5 NTU in first extraction or in the seventh retest extraction	Passed for Exposure Ratio 10000 (mm ² /liter) ^{<1>} Passed for Exposure Ratio 10000 (mm ² /liter) ^{1>}
6.4	Growth of aquatic microorganisms ⁽²⁾	Whether product is tested in accordance with Appendix E, the mean dissolved oxygen difference (MDOD) shall be less than or equal to 2.4 mg/l.	Passed for Exposure Ratio 1000 (mm ² /liter) ^{<1>}
6.5	Cytotoxic activity of water extract. ^{<2>}	Whether product is tested in accordance with Appendix F, the extract shall not cause a cytotoxic response.	No evidence of the Cytotoxic activity for Exposure Ratio 10000 lmm ² /lited ^{1>}
6.6	Mutagenic activity of water extract. ^{<3>} , ^{<2>}	Whether product is tested in accordance with Appendix G, the results shall be reported. There shall not be cause for genetic mutation factors in the extraction.	No Mutagenic response caused for Exposure Ratio 10000 (mm ² /lited ^{1>}
6.7	Extraction of metals.	Whether product is tested in accordance with Appendixes H to J, there shall not be in the first and/or seventh extraction content of Arsenic, Barium, Mercury, Chromium, Nickel, Selenium, Lead, Cadmium and Silver more than one-tenth of the values specified in the Public Health Law that in charge, and the content of Molybdenum, Antimony and Lithium more than specified in the Table 2 of this standard.	Passed for Exposure Ratio 10000 (mm ² /liter) ^{0>}
7	Hot water tests.	Products that pass the test required in Appendix I, J or K meet the requirements for hot water exposure up to temperature used in the testing.	n/a

3. The details of the results according to the tests made on the product are as follows:

3.1 Taste of water extract:

- test parameters and findings are as follow

Tested product labelling / Commercial Name Polymeric bitumen sealing system
DAYSON FAST

<i>Tested property</i>	<i>Test details for the above mentioned model</i>		
Exposure ratio of the product in the test (mm/liter)	1000		
Scaling Factor	7500		
Testing the extraction from the:	First (24 hours)	Final (9 days)	
Taste panel composition:	8 tasters	- - -	
The test conclusion for the unchlorinated extraction:	Passes the test	- - -	
The test conclusion for the chlorinated extraction:	Passes the test	- - -	

Test Result: Passes the requirements for the
chlorinated and unchlorinated
extraction

3.2 Appearance of water extract :

- test parameters are as follows:

Tested product labelling / Commercial Name Polymeric bitumen sealing system
DAYSON FAST

<i>Property</i>	<i>Test details/of the above mentioned model</i>	
Exposure ratio of the product in the test (mm/liter)	10000	
Scaling Factor	2000	
Number of specimen for the extraction	2	

test findings are as follow:

Tested property	Measuring Units	Method detection limit	Maximum Allowed Value	Report	Result
Extraction water real color change	Hazen Units	1	5	First Extract (24 hours)	7th Extract (9 Da)'S)
Extract water turbidity growth	NTU	0.10	0.50	Less than 1	n/a
				0.10	Less than 0.10

Test Conclusion: Passes the requirements for Color
and Turbidity growth

3.3 Growth of aquatic microorganisms :

- test parameters were as follow:

Tested product labelling /Commercial Name	Polymeric bitumen sealing system DAYSON FAST
<i>Tested property / information</i>	<i>Test details for the above mentioned model</i>
Exposure ratio of the product in the test (mm/liter)	1000
Control sample: no releasing of organic matter	Tap water with glass plate system
Control sample: releasing of organic matter	Tap water with paraffine oil system having exposure ratio as above
Toxicity or inhibition on the test bacteria by the sample material	Not observed
Finishing incubation date	07/2007
Starting incubation	09/2007

test results are as follows:

Sample Description	Measuring units	D.O. content in extraction water			Average value	MDOD report value
		Week 5	Week 6	Week 7		
Blank sample (negative control)	mg/l	7.10	7.43	7.09	7.21	n/a
Control sample: no releasing of organic matter	mg/l	7.12	7.40	7.03	7.18	0.03
Test sample - replicate 1	mg/l	6.55	6.83	6.20	6.53	0.68
Test sample - replicate 2	mg/l	6.67	6.10	6.18	6.32	0.89
Test sample - replicate 3	mg/l	6.70	6.23	6.18	6.37	0.84
Control sample: releasing of organic matter	mg/l	0.80	0.80	0.70	0.77	6.44
Control sample: Positive control: test sample with paraffine oil	mg/l	0.25	0.90	0.50	0.55	6.66

Test Conclusion:

Passes the standards requirements for the abovementioned test configuration.
Maximum allowed MDOD value is 2.40 mg/L.

Comment:

3.4 Cytotoxic activity of water extract :

- test parameters were as follow:

Tested product labelling / Commercial Name	Polymeric bitumen sealing system DAYSON FAST
<i>Tested property / mentioned</i>	<i>Test details for the abovementioned model</i>
Exposure ratio of the product in the test (mrn/liter)	10000
Incubation temperature (°C)	30
The description of the substrate for the culture growth	VERO / M-199
Control sample description - Blank	Cell culture prepared with extraction water without sample
Control sample description Positive control	Cell culture prepared with extraction water without sample adding zinc sulphate with the concentration 8 microgram in litre
Culture growing waiting period	48 hours 11J

test results are as follows:

Findings in the culture prepared based on the extract from the first extraction (24 hours)						
Tested Positive property	Findings type	Blank sample	Extraction from the test sample			
			Replicate 1	Replicate 2	Replicate 3	Control sample
Cell morphology	Microscopic evaluation	satisfactive	satisfactive	satisfactive	satisfactive	Cell death
Culture Medium	Medium color	OK	OK (red basic)	OK (red basic)	OK (red basic)	Not OK
Monolayer confluence	Microscopic evaluation	presents	presents	presents	presents	Does not present

Findings in the culture prepared based on the extract from the first extraction (48 hours)						
Tested Positive property	Findings type	Blank sample	Extraction from the test sample			
			Replicate 1	Replicate 2	Replicate 3	Control sample
Cell morphology	Microscopic evaluation	satisfactive	satisfactive	satisfactive	satisfactive	Cell death
Culture Medium	Medium color	OK	OK (red basic)	OK (red basic)	OK (red basic)	Not OK
Mono layer confluence	Microscopic evaluation	presents	presents	presents	presents	Does not present

Findings in the culture prepared based on the extract from the first extraction (72 hours)						
Tested property	Findings type	Blank sample	Extraction from the test sample			Positive control sample
			Replicate 1	Replicate 2	Replicate 3	
Cell morphology	Microscopic evaluation	satisfactive	satisfactive	satisfactive	satisfactive	Cell death
Culture Medium	Medium color	OK	UK (red basic)	OK (red basic)	OK (red basic)	Not OK
Monolayer confluence	Microscopic evaluation	presents	presents	presents	presents	Docs not present

(1) Waiting period mentioned in the test standard is a 24 hours maximum. The results reported are the findings for 48 hour period that take into account observations made at a 24 hour period point as well.

Test Conclusion:

No evidence of the Cytotoxic activity

3.5 Mutagenic activity of water extract :

- test parameters are as follows:

Tested product labelling / Commercial Name	Polymeric bitumen sealing system DAYSON FAST
<i>Tested property / information</i>	<i>Test details for the above mentioned model</i>
Exposure ratio of the product in the test (mm/liter)	10000
Incubation temperature (°C)	30
Scaling Factor	1000
Metabolic activator additive	Liver animal cell (rat, signed "S9")
Negative control sample (blank)	Untreated tap water system
Number of the bacteria chains tested	3

test results without metabolic activator additive are as follows

Bacteria strains tested	Maximum allowed average number of the revertants in the species based on the negative control sample	Average number of the revertants in the species for the extraction water sample
Salmonella typhimurium - TA 98	20	13
Salmonella typhimurium - TA 100	183	100
Salmonella typhimurium - TA 102	185	123

test results with metabolic activator additive are as follows:

Bacteria strains tested	Maximum allowed average number of the revertants in the species based on the negative control sample	Average number of the revertants in the species for the extraction water sample
Salmonella typhimurium - TA 98	55	30
Salmonella typhimurium - TA 100	151	99
Salmonella typhimurium - TA 102	228	215

Summary :

The difference in the number of the revertants colonies (repeated mutations) between the negative control sample and extracted water sample does not exceed two standard deviation above the average number of the repeated mutations in the negative control sample with or without addition of S9 and therefore there is no evidence of the mutagenic effect caused by the sample extraction process.

3.6 Extraction of Metals:

- test parameters are as follow:

Tested product labelling / Commercial Name

Polymeric bitumen sealing system

DAYSON FAST

*Tested property I mentioned**Test details for the above mentioned model*

Exposure ratio of the product in the test (mm/liter)

10000

Scaling Factor

2000

Number of specimen for the extraction

2

Determination methods according to

Standard Methods for the Examination of Water

The detection limit value listed for each element is related only to the product tested by the above method
test results are as follows:

Tested

Detection

Meas

Method

Maxi

Element migration from the sample to
the extraction water

element	method	uring units	Quan ti fication limit	mum allowed migratio n value	First Extract (24 hours)		7° Extract (9 Days)	
					Blank Sample	Product sample	Blank Sample	Product sample
Lithium (Li)	SM3120	<i>mg/l</i>	001	2.5	Less than 0.01	Less than 0.01	n/a	n/a
Barium (Ba)	SM3120	<i>mg/l</i>	0.01	0.1	Less than 0.01	Less than 0.01	n/a	n/a
Molybdeni n/a um (Mo)	SM3120	<i>mg/l</i>	001	0.07	Less than 0.01	Less than 0.01	n/a	
Chromium (Cr)	SM3113	<i>mg/l</i>	0001	0.005 than	Less than 0.001	Less than 0.001	Less than 0.001	Less
Nickel (Ni)	SM3113	<i>mg/l</i>	0001	0.005	Less than 0.001	Less than 0.001	Less than 0.001	Less than 0.001
Antimony (Sb)	SM3113	<i>mg/l</i>	0001	0.005	Less than 0.001	Less than 0.001	Less than 0.001	Less than 0.001
Arsenic (As)	SM3113	<i>mg/l</i>	0.001	0.005 than	Less than 0.001	Less than 0.001	Less than 0.001	Less
Selenium (Se)	SM3113	<i>mg/l</i>	0001	0.001 0.001 than	Less than 0.001	Less than 0.001	Less than 0.001	Less
Lead (Pb)	SM3113	<i>mg/l</i>	0001	0.001	Less than 0.001	Less than 0.001	Less than 0.001	Less than 0.001
Silver (A2)	SM3113	<i>mg/l</i>	0.0005	0.001	Less than 0.0005	Less than 0.0005	Less than 0.0005	Less than 0.0005
Cadmium (Cd)	SM3113	<i>mg/l</i>	0.0001	0.0005 than	Less than 0.0001	Less than 0.0001	Less than 0.0001	Less
Mercury (H2)	SM3112	<i>mg/l</i>	0.0001	0.0001	Less than 0.0001	Less than 0.0001	Less than 0.0001	Less than 0.0001
Test Conclusion:			Passes the requirements for related elements - end of document -					