IMS Site Services Ltd

SPECIALISTS IN WASTE MANAGEMENT SOLUTIONS AND RESOURCE RECOVERY

Tel 018433744 web www.imsirl.ie email info@insirl.ie

Declaration of Performance

ESB Networks Thermal Fill Sand

Product Types:	**ESB Networks Thermal Fill Sand**
Manufacturer:	**IMS Site Services Ltd, Hollywood, Naul, Co. Dublin**
Standard:	**ESB Networks DOC-2008-15-CAP** **EPA National End-of-Waste Decision EoW-N001/2023**
Notified Body:	**NA**
Attestation Of Conformity: System	**System 4**
Products & Unique Codes:	**Thermal Fill 0-2mm** **Thermal Fill 0-4mm**

Property	Category or Tolerance	Result	Unit & Limit
Grading	100% Pass 8mm 85-99% Pass 4mm	100% Pass 8mm 94%-97% Pass 4mm	% & Complies % & Complies
Thermal Resistivity	@0% MC Max 2.7Km/W @2% MC Max 2.7Km/W	2.05-2.32 1.13-1.62	Complies to be declared

Copies of results as attached

The performance of the product identified above is in compliance with the values noted and only when installed fully in accordance with the relevant standard and additional instructions contained on the supplied Statement of Conformity as required under End of Waste Decision N001-2023. IMS Site Services Ltd. confirm a positive good clean history of use with this product.

Sign on behalf of the manufacturer
IMS Site Services Limited
Hollywood Great, Nags Head, The Naul, Co Dublin

Signature

Cian O'Hora
(Director)

Outlook

[Draft] Re: Thermal Backfill

From

To O'Shaughnessy. James (ESB Networks) <james.oshaughnessy1@esb.ie>; Cian O'Hora <cian.ohora@imsirl.ie>

Cc Colm Connolly <colm.connolly@imsirl.ie>; Walsh. Stephen (ESB Networks) <Stephen.Walsh@esb.ie>

From: O'Shaughnessy. James (ESB Networks) <james.oshaughnessy1@esb.ie>
Sent: 07 February 2025 15:14
To: Cian O'Hora <cian.ohora@imsirl.ie>
Cc: Colm Connolly <colm.connolly@imsirl.ie>; Walsh. Stephen (ESB Networks) <Stephen.Walsh@esb.ie>; Darren O'Reilly <darren.oreilly@imsirl.ie>
Subject: RE: Thermal Backfill

Cian,

Please proceed, test certification for these samples are approved.

Thanks,
James

James O'Shaughnessy | Underground Networks Section, Network Assets | ESB Networks | T: +353 61 430 595 / +353 87 9066095 | www.esb.ie

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From: Cian O'Hora <cian.ohora@imsirl.ie>
Sent: Wednesday, January 22, 2025 9:25 AM
To: O'Shaughnessy. James (ESB Networks) <james.oshaughnessy1@esb.ie>
Cc: Colm Connolly <colm.connolly@imsirl.ie>; Walsh. Stephen (ESB Networks) <Stephen.Walsh@esb.ie>; Darren O'Reilly <darren.oreilly@imsirl.ie>
Subject: RE: Thermal Backfill

Hi James,

Just following up on this email to see if any further information needed from your end?

Best regards,
Cian

From: Cian O'Hora
Sent: Thursday 16 January 2025 08:11
To: O'Shaughnessy. James (ESB Networks) <james.oshaughnessy1@esb.ie>
Cc: Colm Connolly <colm.connolly@imsirl.ie>; Walsh. Stephen (ESB Networks) <Stephen.Walsh@esb.ie>
Subject: RE: Thermal Backfill

Hi James,

I hope all is well with you.

We took some additional samples in December and had them analysed by BHP. The results are attached and the samples are as follows:

Sample Ref	Sample Date	Tonnage	Grading	Thermal Resistivity
TS1	09/12/2024	3000	complies	<2.7 Km/W
TS2	09/12/2024	3000	complies	<2.7 Km/W
TS3	09/12/2024	2000	complies	<2.7 Km/W
TS4	09/12/2024	2000	complies	<2.7 Km/W

Could you review the attached and confirm acceptability as Thermal Sand please?

If you require any further information please let me know.

Best regards,
Cian

From: Cian O'Hora <cian.ohora@imsirl.ie>
Sent: Friday 11 October 2024 09:17
To: O'Shaughnessy. James (ESB Networks) <james.oshaughnessy1@esb.ie>
Cc: Colm Connolly <colm.connolly@imsirl.ie>; Walsh. Stephen (ESB Networks) <Stephen.Walsh@esb.ie>
Subject: RE: Thermal Backfill

NSAI, 1 Swift Square, Northwood, Dublin 9, Ireland, D09 A0E4

Certificate of conformity of the factory production control,

0050 - CPR - 1002

In compliance with Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR), this certificate applies to the construction product(s):

Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction

Placed on the market under the name of:

IMS Site Services Ltd
Hollywood Great, Nag's Head, Naul, Co. Dublin, Ireland, A41 YE92

and produced in the manufacturing plant:

IMS Site Services Ltd
Hollywood Great, Nag's Head, Naul, Co. Dublin, Ireland, A41 YE92

This certificate attests that all provisions concerning the assessment and verification of constancy of performance described in Annex ZA of the standard:

I.S. EN 13242:2002 + A1 2007

under system 2+ are applied and that

the factory production control is assessed to be in conformity with the applicable requirements

This certificate was first issued on 3 February 2020 and remains valid as long as neither the harmonised standard, the construction product, the AVCP methods nor the manufacturing conditions in the plant are modified significantly, unless suspended or withdrawn by the notified factory production control certification body.

File Number:	1.122.249
Approval Date:	3 February 2020
Last Amended Date:	5 February 2025
Expiry Date:	2 February 2026

Signed:

Mr. Kevin D. Mullaney
Director of Certification, NSAI

ISO 17065 INAB ACCREDITED PRODUCT CERTIFICATION DETAILED IN SCOPE REG NO.6001

All valid NSAI certifications are listed on NSAI's website – www.nsai.ie. The continued validity of this certificate may be verified under "Certified Company Search"

AGGREGATE TEST REPORT

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3367
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	17/12/2024
F.A.O.:	Darren O' Reilly	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great - Naul		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS1 (Recycled Aggregate) - Stockpile Hill West Side		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

EN 933-1: 2012 Cl. 7

Sieve Size	% Passing	% Passing Minimum	% Passing Maximum
200mm	100		
125mm	100		
100mm	100		
90mm	100		
80mm	100		
63mm	100		
45mm	100		
40mm	100		
31.5mm	100		
20mm	100		
16mm	100		
14mm	100		
12.5mm	100		
10mm	100		
8mm	100	100	100
6.3mm	100	95	100
5mm	100		
4mm	97	85	99
2.8mm	87		
2mm	76		
1mm	58		
500µm	43	30	70
425µm	39		
250µm	27		
125µm	12		
63µm	4.3		

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None
Amount of soil used for the test	Riffled from a bulk sample > 14 Kg
Method of preparation	Riffling
The uniformity coeficient is	Not Applicable

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie

AGGREGATE TEST REPORT

DETERMINATION OF THERMAL CONDUCTIVITY

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3367
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	23/12/2024
F.A.O.:	Darren O' Reilly	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great - Naul		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS1 (Recycled Aggregata) - Stockpile Hill West Side		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

ASTM-D 5334-22a: Thermal Needle Probe

Method of Preparation	Riffling
Visual Description	Sand
Testing Time (s)	120
Temperature (°K)	291.3
Temperature (°C)	18.3

Moisture Content %	Bulk Density (Mg/m^3)	Initial Density (Kg/m^3)	Thermal Conductivity (W / mK)	Thermal Resistivity (K m / W)
0.0	1.75	1746	0.47	2.12
1.0	1.75	1735	0.54	1.85
2.0	1.75	1713	0.80	1.26

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie

AGGREGATE TEST REPORT

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3368
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	19/12/2024
F.A.O.:	Darren O' Reilly	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great - Naul		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS2 (Recycled Aggregate) - Stockpile Hill East Side		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

EN 933-1: 2012 Cl. 7

Sieve Size	% Passing	% Passing Minimum	% Passing Maximum
200mm	100		
125mm	100		
100mm	100		
90mm	100		
80mm	100		
63mm	100		
45mm	100		
40mm	100		
31.5mm	100		
20mm	100		
16mm	100		
14mm	100		
12.5mm	100		
10mm	100		
8mm	100	100	100
6.3mm	100	95	100
5mm	100		
4mm	97	85	99
2.8mm	86		
2mm	75		
1mm	55		
500µm	39	30	70
425µm	36		
250µm	25		
125µm	10		
63µm	3.0		

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None
Amount of soil used for the test	Riffled from a bulk sample > 14 Kg
Method of preparation	Riffling
The uniformity coeficient is	Not Applicable

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie

AGGREGATE TEST REPORT

DETERMINATION OF THERMAL CONDUCTIVITY

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3368
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	23/12/2024
F.A.O.:	Darrem O' Reilly	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great - Naul		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS2 (Recycled Aggregate) - Stockpile Hill East Side		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

ASTM-D 5334-22a: Thermal Needle Probe

Method of Preparation	Riffling
Visual Description	Sand
Testing Time (s)	120
Temperature (°K)	291.4
Temperature (°C)	18.4

Moisture Content %	Bulk Density (Mg/m³)	Initial Density (Kg/m³)	Thermal Conductivity (W / mK)	Thermal Resistivity (K m / W)
0.0	1.79	1785	0.49	2.05
1.0	1.80	1780	0.56	1.79
2.0	1.79	1753	0.88	1.13

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie

AGGREGATE TEST REPORT

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3369
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	18/12/2024
F.A.O.:	Darren O' Reilly	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great - Naul		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS3 (Recycled Aggregate) - 6mm Storage Bay Concrete		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

EN 933-1: 2012 Cl. 7

Sieve Size	% Passing	% Passing Minimum	% Passing Maximum
200mm	100		
125mm	100		
100mm	100		
90mm	100		
80mm	100		
63mm	100		
45mm	100		
40mm	100		
31.5mm	100		
20mm	100		
16mm	100		
14mm	100		
12.5mm	100		
10mm	100		
8mm	100	100	100
6.3mm	100	95	100
5mm	100		
4mm	96	85	99
2.8mm	85		
2mm	71		
1mm	47		
500µm	30	5	45
425µm	26		
250µm	16		
125µm	6		
63µm	2.0		

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None
Amount of soil used for the test	Riffled from a bulk sample > 14 Kg
Method of preparation	Riffling
The uniformity coeficient is	Not Applicable

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie

AGGREGATE TEST REPORT

DETERMINATION OF THERMAL CONDUCTIVITY

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3369
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	24/12/2024
F.A.O.:	Darren O' Reilly	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great - Naul		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS3 (Recycled Aggregate) - 6mm Storage Bay Concrete		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

ASTM-D 5334-22a: Thermal Needle Probe

Method of Preparation	Riffling
Visual Description	Sand
Testing Time (s)	120
Temperature (°K)	291.6
Temperature (°C)	18.6

Moisture Content %	Bulk Density (Mg/m^3)	Initial Density (Kg/m^3)	Thermal Conductivity (W / mK)	Thermal Resistivity (K m / W)
0.0	1.70	1701	0.43	2.32
1.0	1.71	1694	0.48	2.09
2.0	1.71	1669	0.62	1.62

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie

AGGREGATE TEST REPORT

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3370
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	18/12/2024
F.A.O.:	Darren O' Reilly	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great - Naul		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS4 (Recycled Aggregate) - 6mm Stockpile from Belt		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

EN 933-1: 2012 Cl. 7

Sieve Size	% Passing	% Passing Minimum	% Passing Maximum
200mm	100		
125mm	100		
100mm	100		
90mm	100		
80mm	100		
63mm	100		
45mm	100		
40mm	100		
31.5mm	100		
20mm	100		
16mm	100		
14mm	100		
12.5mm	100		
10mm	100		
8mm	100	100	100
6.3mm	100	95	100
5mm	100		
4mm	94	85	99
2.8mm	80		
2mm	65		
1mm	41		
500µm	27	5	45
425µm	24		
250µm	18		
125µm	6		
63µm	0.8		

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None
Amount of soil used for the test	Riffled from a bulk sample > 14 Kg
Method of preparation	Riffling
The uniformity coeficient is	Not Applicable

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie

AGGREGATE TEST REPORT

DETERMINATION OF THERMAL CONDUCTIVITY

Client:	IMS Site Service Limited	BHP Ref. No.:	24/12/3370
	IMS Landfill, Hollywood Great	Order No:	Darren O Reilly
	The Naul	Date Received:	13/12/2024
	Dublin	Date Tested:	24/12/2024
F.A.O.:	Darren	Design-execution Standard:	Cable Installations Backfill
Project:	Hollywood Great		

Sampling Information

Material:	ESB Aggregate Specificaitons		
Client Reference:	TS4 (Recycled Aggregate) - 6mm Stockpile from Belt		
Source of Material:	Stockpile	Date of Sampling:	09/12/2024

Test Information

ASTM-D 5334-22a: Thermal Needle Probe

Method of Preparation	Riffling
Visual Description	Sand
Testing Time (s)	120
Temperature (°K)	288.6
Temperature (°C)	15.6

Moisture Content %	Bulk Density (Mg/m^3)	Initial Density (Kg/m^3)	Thermal Conductivity (W / mK)	Thermal Resistivity (K m / W)
0.0	1.74	1736	0.44	2.29
1.0	1.76	1741	0.51	1.97
2.0	1.76	1720	0.63	1.58

Remarks:

Sampling carried out by:	Client
Sampling certificate provided	No
Deviation from Test Method:	No
Comments associated with the test:	None

Approved By:
Seamus O' Connell
Laboratory Technical Manager

Signature:

Issue Date: 10/01/2025

Tested by BHP Laboratories, New Road, Thomondgate, Limerick. Phone: (061) 455399 Email: jamespurcell@bhp.ie