



Approved Material Suppliers for
LV, MV, 38kV, 110kV, 220kV, 400kV and Associated
Works

**Note: Suppliers shall conform to ESB Specifications at all
times throughout approval time;
ESB reserves right to change approval status when
Specification changes**

Last Updated November 2022, Rev 18

DOC-200815-CAP

Always check www.esbnetworks.ie for latest updates



Housing Schemes – See Electrical Services Guidebook


DOC-200815-CAP

1. Approved VC1, VC2 & VC3 Vault Covers

(Brick or Paving filled Vault Covers will not be accepted by ESB Networks on any part of its system)

	Company	Contact Details	Notes
1.	East Jordan (formerly Cavanagh Foundry) Roscrea Road, Birr, Co Offaly, Ireland	Daithi Regan T: +353 (0)57 91 23100 M: +353 (0)87 66 79566 Fax: +353 (0)57 91 20954 E: daithi.regan@ejco.com	Previously marked with Cavanagh name; are now marked with EJ

2. Approved Concrete pre-cast Minipillar Vaults

	Company	Contact Details	Photograph/Notes
1.	Creative Concrete Ltd Ballinamere, Tullamore, Co Offaly	Phone +353 57 93 55808 Fax + 353 57 93 55558 Email: info@creativeconcrete.ie Website www.creativeconcrete.ie	Creative Concrete name moulded on inside, under minipillar 
2.	Killeshal Precast Concrete Ltd Daingean, County Offaly Republic of Ireland	Tel: +353 57 9353018 W: www.killeshal.com E: sales@killeshal.com	Name is cast in the concrete under the minipillar 
3.	Greaney Concrete Products Ltd Stokesfield Shanagolden Co. Limerick	Tel No: 069 65388 E-Mail: info@greaneyconcrete.ie Web: www.greaneyconcrete.ie	
4.	Kilkenny Pre-Cast, Hebron Rd, Kilkenny, Co. Kilkenny	Tel: (056) 7721013 Andrew Dooley Tel: 087-2500909 E: kilkennyprecastconcrete@gmail.com W: kilkennyprecast.ie	

3. Approved pre cast link box chamber, C2 chamber and transition chamber

	Company	Contact Details	Photograph/Notes
1.	Banagher Precaste Concrete Ltd, Banagher, Co. offaly	Tel: 0579151417 E: info@bancrete.com	
2.	Greaney Concrete Products Ltd Stokesfield Shanagolden Co. Limerick	Tel No: 069 65388 Fax No: 069 65449 E: info@greaneyconcrete.ie Web: www.greaneyconcrete.ie	

4. Approved link box chamber and C2 chamber covers



	Company	Contact Details	Notes
1.	East Jordan (formerly Cavanagh Foundry) Roscrea Road, Birr, Co Offaly, Ireland	Daithi Regan T: +353 (0)57 91 23100 M: +353 (0)87 66 79566 Fax: +353 (0)57 91 20954 E: daithi.regan@ejco.com	Previously marked with Cavanagh name; are be marked with EJ.

5. Approved Precast Joint Bays

400kV, 220 kV, 110kV, 38kV and MV	Banagher Precast Concrete Ltd, Banagher, Co. Offaly	Tel: 0579151417 E: info@bancrete.com
	Greaney Concrete Products Ltd Stokesfield Shanagolden Co. Limerick	Tel No: 069 65388 Fax No: 069 65449 E: info@agconcrete.com Web: www.greaneyconcrete.ie

6. Approved Plastic pre-formed Minipillar vaults

Company	Contact Details	Photograph/Notes
---------	-----------------	------------------

1.	CUBIS SYSTEMS	Tel: 0906628096 E: bhughes@cubis-systems.com W: www.cubis-systems.com	CUBIS name sprayed on each section of vault 
2.	Radius Systems Scarva Road Ind. Estate Banbridge, Co Down BT32 3QD	Tel: +442838446060 E: info@radius-systems.com Sandra Davoust McCann DD: +44(0)2838 44 6040 Mob: +44 (0) 7850 207253 Alistair Dodds +44 (0) 2838 446046 Beate Burgess +44 (0) 2838 446034 Jennifer.Baldam +44 (0) 2838 446061	

7. Approved Thermal Sand

Below is a list of current approved sand suppliers. New suppliers are regularly approved and added to the list. We are keen to add new suppliers in more areas. To become an approved supplier the thermal sand must meet 3 main criteria:

1. It shall have no sharp stones or flints (may damage the cable sheath during compaction).
2. At least 95% shall pass a 4 mm sieve and 100% shall pass a 8 mm sieve.
3. The fully dried sample @ 0% moisture shall have a maximum thermal resistivity of 2.7 K.m/W. This test must be completed by the **thermal needle probe method as outlined in ASTM D5334**. The thermal resistivity @ 2% moisture shall also be recorded.

Suppliers who can demonstrate that they can meet these criteria can contact ESB Networks Assets UG Section for assessment and approval.

ESB Networks Currently Approved Suppliers List for Thermal Sand:

Company	Contact Details
---------	-----------------

1.	Quirkas, Killorglin quarry only.	info@quirkequarries.com 066 9761558
2.	Drimoleague Concrete, Quarry near Macroom only, Macroom, Co. Cork	info@dwcl.ie Tel: 028 31209
3.	Finbarr O'Neill Ltd, Ovens, Co. Cork	Tel: 086 252 2529 reception@finbarroneill.ie
4	Keohanes, Oresized quarry only, Inishannon, Co. Cork	Tel: + 353 (0) 21 4775599 Mob: + 353 (0) 86 8593804
5.	Gillespies Quarries, Crogheravaddy, Letterkenny, Co. Donegal	E: info@gillespiequarries.ie Tel: 086 058 5789
6.	Kilcarrig quarries, Fiddancoyle pit and Bigstone pit, Baltinglass, Co. Wicklow	E: sales@kilcarrigquarries.ie Tel: 059 9721617
7.	Harry Tobin Sand & Gravel Garden Hill, Castleconnell, Co. Limerick	Tel: 061 377 466
8.	Ladysbridge aggregates, Ladysbridge, Co. Cork	E: sales@ladysbridge.ie Tel:021 4219809
9.	Anthony Darcy Sand, Pit at Blackwater, Co. Wicklow.	E: info@darcysands.ie Tel: 0402 38261
10.	Finnegans Sand Tuam, Pits at Tuam and Ballyhaunis, Galway, Mayo.	Tel: 093 28400
11.	Nally's Sand and Gravel, Clonfanlough, Ballinahowen, Co. Westmeath	Tel: 0906 430541 Mob: 087 2027127 Email: dermot@nallystone.ie
12.	Gerard Naughton and Sons limited, Coolbane, Killorglin, co. Kerry	Tel: 087 2214224 Email: gerardnaughton@yahoo.ie
13.	Hudson Brothers Limited, New Paddocks, Blessington, Co. Wicklow.	Contact office: 045 865 880 Declan Murphy 087 699 0807 Email: declan@hudsonbrothers.ie
14.	Walsh Quarries Ltd, Ardristan, Tullow, Co. Carlow	Contact is Joe Barcoe 059 91 44448 Email: jbarcoe@dwce.ie
15.	Lagans – various locations Milebush Midleton, Co. Cork Bweeng, Mallow, Co. Cork Coolrain, Co. Laois	Fraser Thom Mobile: 086 1725612 Email: fthom@breedongroup.com Info : www.breedongroup.com Tel: 021 4883123 (Milebush quarry orders) Tel: 021 7333051 (Bweeng quarry orders) Tel: 057 873 5071 (Coolrain quarry orders)
16.	MC Group, Keim Quarry, Carrigacoolen, Millstreet, Co. Cork P51 DX29	Email: info@mcgroup.ie Phone: 064 6631307
17.	Wholesalers Suppliers Ltd Coolbawn, Castlecomer , Co Kilkenny R95HV1F	Website: www.wholesalerssuppliers.com Mobile: Harrold 087 2626489 , Errol 087 2626488 Phone:056 4441216

18	Ashford Sand and Gravel Ltd. Rossanna Lower Rathnew, Co Wicklow A67V998	Email :ashfordsandandgravel@yahoo.com Phone: Andrew 086 8337267, Office 0404 42830
19	Seamus Ryan Sand & Gravel Ltd. Ballybeg Toomevara Nenagh Co. Tipperary E54 R854	Email: info@srg gravel.com Phone: Seamus 087-2479397, Michael 087-7443462

8. Approved Link Boxes

	Company	Contact Details
1.	NKT Link Box (110kV)	Chris Turbett Mob: 083 1736508 Email: Christopher.Turbett@nkt.com
2.	Pfisterer Link Box (110kV) PFISTERER Ltd. 2-4 Orgreave Place, Orgreave Sheffield S13 9LU, United Kingdom	Michael Wyer Tel: 0860422300 Mob: 0044(0)147 6578657 Email: michael.wyer@pfisterer.com

9. HDPE ducts, couplers and bends for 38kV, 110kV, 220kV and 400kV

All ducting, couplers and bends must comply with ESNB Specification 16113 Rev 8. See Specification for more details on the range of ducts and couplers coded. Generally, the following ducts sizes are used.

Voltage	Conductor Size	Duct Outer Diameter	Duct SDR
38kV	1000mm and under	110mm	17.6
110kV	1000mm and under	125mm	17.6
110kV	1600mm	160mm	21
220kV	2500mm	200	21
All comms ducts with 110kV and above	N/A	125	17.6
HDD ducts	All HDD ducts shall be SDR 11. The HDD power ducts may need to have a larger outer diameter to ensure the inner diameter is suitable to install the cable. See Spec 16113 rev8 for details. Comms ducts can be 125mm OD SDR 11		Standard sizes: 125mm SDR11 (comms only) 140mm SDR11 180mm SDR11 225mm SDR11

Current Approved Suppliers for 38kV, 110kV, 220kV and 400kV HDPE ducts / fittings

	Company	Contact Details	Notes
1.	Pipelife White's Cross, Co. Cork	Richard O'Leary Tel: 021 4884700	Ducting in 6-12m lengths and coils up to 160mm diameter
2.	Cork Plastics, Little Island, Cork	Tel: 021 510610 E: info@cpm.ie	Ducting in 6-12m lengths
3.	Radius Systems, Scarva Road Ind. Est. Banbridge, Co. Down	Sandra Davoust McCann Direct Dial: +44(0)2838 44 6040 Switchboard: +44 (0) 28 4066 9999 Mobile: +44 (0) 7850 207253 E: sandra.davoustmccann@radius-systems.com Alistair Dodds 02838 446046	Ducting in 6-12m lengths and coils up to 160mm diameter. Couplers. Pre formed bends for 160-250mm diameter ducts, 6m radius as standard and 3.5m radius with ESNB NA UG Section Approval.

		alistair.dodds@radius-systems.com Beate Burgess 02838 446034 beate.burgess@radius-systems.com Jennifer.Baldam 02838 446061 jennifer.baldam@radius-systems.com	
4.	Emtelle Ltd, Hawick & Jedburg, Scotland	Greig McIlwraith Tel: +44 (0) 1450 364046 Mob: +44 (0) 7912 771040 Kevin Corry Tel: 01 4573900 TPS (ROI) LIMITED 520 Grants Road Greenogue Business park Rathcoole Co Dublin D24 YE61 David O'Brien 353 (0)87 8343030 Keith O'Callaghan 353 (0)872834452 PVC Fabrications	Ducting in 6-12m lengths and coils up to 160mm diameter Couplers Transition Couplers Pre formed bends for 160-250mm diameter ducts, 6m radius as standard and 3.5m radius with ESNB NA UG Section Approval.
5.	Lynplast, Courtstown Industrial Park Little Island, Co. Cork	Mark Lynch Tel: 021 4353096	Couplers, nonstandard tee pieces and fittings.

10. MV and LV - uPVC ducts, bends and HDPE/MDPE coils.

note: 160mm HDPE straight lengths are not approved for use (on MV / LV)

NB for directional drilling duct for 400 sq. mm Al MV cable , SDR 14.7 shall be used as 400 SQ MM AL Cable will not fit if SDR 11 is used			
	Company	Contact Details	Notes
1.	Cork Plastics Little Island Cork	Antony O'Sullivan Tel: 021 4510600	125mm and 160mm uPVC ducts
2.	Lynplast, Courtstown Industrial Park Little Island Cork	Mark Lynch (Bends/Fittings) Tel: 021 4353096	PVC Service Hockey Stick, UPVC duct bends, uPVC couplers / repair couplers
3.	MFP Plastics Ltd Laraghcon, Lucan Co Dublin	Eddie Kelly Tel: 01 630 2600 Mob: 0872522501	125mm and 160mm uPVC ducts, uPVC duct bends, PVC Service Hockey Stick, uPVC couplers / repair couplers MDPE/HDPE 50 mm ducting
4.	Pipelife	Richard O'Leary Tel: 021 4884700	HDPE/MDPE 125 mm coils /sticks SDR 14.7 mm for 400 sq mm Al MV

	White's Cross, Cork		cable and 160 mm SDR 11 for directional drilling MDPE and HDPE 50 mm service duct
5.	Radius Systems , Scarva Road Ind. Est. Banbridge, Co. Down	Sandra Davoust McCann Direct Dial: +44(0)2838 44 6040 Switchboard: +44 (0) 28 4066 9999 Mobile: +44 (0) 7850 207253 E: sandra.davoustmccann@radius-systems.com Alistair Dodds 02838 446046 alistair.dodds@radius-systems.com Beate Burgess 02838 446034 beate.burgess@radius-systems.com Jennifer.Baldam 02838 446061 jennifer.baldam@radius-systems.com	Distributor for uPVC duct bends, uPVC couplers / repair couplers HDPE/MDPE 125 mm coils /sticks SDR 14.7 mm for 400 sq mm AL MV cable and 160 mm SDR 11 for directional drilling and MDPE/HDPE 50 mm ducting
6.	Wavin Irl Ltd Balbriggan Co. Dublin	Tel: 01 8020200	125mm and 160mm uPVC ducts, PVC Service Hockey Stick, uPVC couplers / repair couplers distributors for HDPE/MDPE 125 mm coils /sticks SDR 14.7 mm for 400 sq mm Al MV cable and 160 mm SDR 11 for directional drilling and MDPE/HDPE 50 mm ducting
7.	Emtelle Ltd Hawick & Jedburg Scotland	Greig McIlwraith Tel: +44 (0) 1450 364046 Mob: +44 (0) 7912 771040 Kevin Corry and Dermot Reville Tel: 01 4573900 TPS (ROI) LIMITED 520 Grants Road Greenogue Business park Rathcoole Co Dublin D24 YE61 David O'Brien 353 (0)87 8343030 Keith O'Callaghan 353 (0)872834452 PVC Fabrications	125mm and 160mm uPVC ducts, uPVC duct bends, PVC Service Hockey Stick, uPVC couplers / repair couplers HDPE/MDPE 125 mm SDR 14.7 mm Coils/Sticks for 400 sq MV cable and 160 mm SDR 11 for directional drilling and MDPE/HDPE 50 mm ducting
8.	Brett Martin Ltd.	Glenn Goodman Tel: +44 7711 424773 glenngoodman@brettmartin.com	125mm and 160mm uPVC ducts, uPVC couplers / repair couplers
9.	Polypipe Ulster Dromore Rd Lurgan Craigavon Co Antrim BT66 7HL	Kevin Foster Tel: +44 (0) 862597286	125mm and 160mm uPVC ducts, uPVC duct bends, PVC Service Hockey Stick, uPVC couplers / repair couplers MDPE/HDPE 50mm ducting

11. Cable Pulling Lubricant

	Company	Contact Details
1.	PT Technologies Europe Meenane, Watergrasshill, Co. Cork	Leslie Archer Tel. 021-4889922

12. ESB Approved Cable Pulling Equipment Suppliers

Cable Pulling Stockings, Lead In/Exit Bellmouth, Cable Rollers

	Company	Contact Details
1.	Clydesdale UK	Andy Calderwood 0044 1234 855855 (Office) 0044 7703344656 (Mobile)
2.	Brandon Agencies Rathnew, Co. Wicklow	Keith Brandon Tel. 0404-20500

13. Approved Marker Tape

ESB Code: 2955090, (250mm Width, 200m roll) ESB Code: 2955091, (250mm Width, 50m roll) ESB Code: 2955092, (500mm Width, 200m roll)			
	Company	Contact Details	Notes
1.	Centriforce Products Ltd 14-16 Derby Road, Liverpool, L20 8EE, UK	Amanda Welsh Mob: +44 (0) 7377 873 514 Tel: +44 (0)151 207 8109 Fax: + 44 (0)151 298 1319	Material Specification As above; Roll length 200m. Use 1 one width or multiple widths of 500mm wide marker tape for trenches > 500mm width; or combinations of both widths; In all cases the overall width of marker tape laid must be wider than the overall width of ducts laid below.
Distributors for Approved Yellow Marker Tapes			
	Company	Contact Details	
1.	ABC Abrasives, Unit 8B Malahide Road Industrial Park, Malahide Road, Dublin 17	Contact: Damian McFadden / Noel Savage / Adam Barry Tel: 01 8486088 Fax: 01 848 6104 Email: sales@abcabrasives.ie	
2.	Cork Builders Providers Ltd, West Link, Togher Industrial Estate, Cork.	Contact: Daniel Millard Tel: 021 4961700 Mob: 086 8509169 Fax: 021 4961 428 Email: info@corkbp.ie	
3.	Safety First (Ireland) Ltd, Crossagella Industrial Estate, Ballysimon Road, Limerick	Contact: Seamus Clifford Tel: 061 419867 Fax: 061 416953 Email info@safetyfirst.ie	
4.	SW Carty & Son Ltd, Unit 48, Robinhood Industrial Estate, Dublin 22.	Contact: Alan Fenton Tel. 01 4508046 Fax: 01 4503486 Email: sales@swcarty.ie	
5.	TPS (ROI) LIMITED	Dermot Reville / Kevin Corry Tel: 01 4573900	

	520 Grants Road Greenogue Business park Rathcoole Co Dublin D24 YE61	
--	--	--

14. Approved Supplier of Red Warning Strip (2.5mm thick)

ESB Code: 2955101 (200mm width, 20m roll, 2.5mm thick) ESB Code: 2955103 (400mm, 20m roll, 2.5 mm thick)			
	Company	Contact Details	Notes
1.	Centriforce Products Ltd 14-16 Derby Rd Liverpool UK	Amanda Welsh Mob: +44 (0) 7377 873 514 Tel: +44 (0)151 207 8109 Fax: + 44 (0)151 298 1319	Use 200mm width for all trenches up to 300mm width Use two widths for trenches between 300mm-500mm width & overlap No gaps allowed between adjacent rolls
2.	Emtelle UK Ltd. Haughhead, Hawick, Scottish Borders, UK. TD9 8LF	Greig Mcllwraith Tel: +44(0) 1450 364046 Mob: +44(0) 7912 771040 Email: greigmc@emtelle.com	
Distributors for Red Warning Strip			
	Company	Contact Details	
1.	ABC Abrasives, Unit 8B Malahide Road Industrial Park, Malahide Road, Dublin 17	Contact: Damian McFadden/Noel Savage Tel. 01 8486088.	
2.	Cork Builders Providers Ltd, West Link, Togher Industrial Estate, Cork.	Contact: Daniel Millard Tel. 021 4961700.	
3.	MFP Plastics Ltd Laraghcon, Lucan Co Dublin	Eddie Kelly Tel: 01 630 2500 Mob: 0872522501	
4.	TPS (ROI) LIMITED 520 Grants Road Greenogue Business park Rathcoole Co Dublin D24 YE61	Kevin Corry / Dermot Reville Tel: 01 4573900	


15.6mm x 200mm x 750mm Galvanised Steel Marker Plate with Marker Strip

	Company	Contact Details	Notes/Photographs
1.	East Jordan (formerly Cavanagh Foundry) Roscrea Road, Birr, Co Offaly, Ireland	Daithi Regan T: +353 (0)57 91 23100 M: +353 (0)87 66 79566 Fax: +353 (0)57 91 20954 E: daithi.regan@ejco.com	
2.	Edwards Engineering Ltd, Castlemore, Tullow, Co. Carlow	Patrick Edwards Tel: 059 915 2224 Mob: 085 7130020 Email: patrick@edwardsengineering.ie info@edwardsengineering.ie	
3.	Emtelle UK Limited Haughead Hawick TD9 8LF Scotland	Greig Mcllwraith Tel: +44(0) 1450 364046 Mob: +44(0) 7912 771040 Email: greigmc@emtelle.com	


16. Surface Marker Plate

	Company	Contact Details	Notes/Photographs
1.	East Jordan (formerly Cavanagh Foundry) Roscrea Road, Birr, Co Offaly, Ireland	Daithi Regan T: +353 (0)57 91 23100 M: +353 (0)87 66 79566 Fax: +353 (0)57 91 20954 E: daithi.regan@ejco.com	

17. Marker Post

	Company	Contact Details	Notes/Photographs
1.	PLASTIC Rotofab Athlone Blyry Industrial Estate Athlone Co. Westmeath	Joe Naughton Ph: (090) 6479000 sales@rotofab.com	

18. Brush

	Company	Contact Details	Notes/Photographs
1.	I.S. Varian Unit 1, Greenhills Industrial Estate, Dublin 12	Alan Walker Mob. 086-0260555 Tel. 01-4501150	(White bristle with gaps brush NOT acceptable) 


19. Mandrel

	Company	Contact Details	Notes/Photographs
1.	Brandon Agencies Rathnew, Co. Wicklow	Keith Brandon Tel. 0404-20500	
2.	Midland Site Supplies, Roscrea, Co. Tipperary	Email: info@midlandsitesupplies.ie Phone: 087 358 7208	

20. Circular Sponge

	Company	Contact Details
1.	Foamflex, Monavalley Industrial Estate, Tralee, Co. Kerry	Tel. 066-7180944
2.	Midland Site Supplies, Roscrea, Co. Tipperary	Email: info@midlandsitesupplies.ie Phone: 087 358 7208

21. Sonde

	Company	Contact Details	Notes/Photographs
1.	Underground Detection Equipment Ltd, 66 Ralahine, Killiney, Co. Dublin	Denise Byrne Tel. 01-2852701 Mob. 086-4057815 Email: info@ude.ie	
2.	Midland Site Supplies, Roscrea, Co. Tipperary	Email: info@midlandsitesupplies.ie Phone: 087 358 7208	

22. Radio Detection (note: other company's devices can also be used provided they use a frequency compatible for use with the MRX version of the RD400 cable location tool)

	Company	Contact Details	Notes/Photographs
1.	Underground Detection Equipment Ltd, 66 Ralahine, Killiney, Co. Dublin	Denise Byrne Tel. 01-2852701 Mob. 086-4057815 Email: info@ude.ie	 Omniball

23. Rope (12mm polypropylene rope with certified safe breaking load of 2 tons) Available in 600m drums & 220m coils.

	Company	Contact Details
1.	Silver Strand Rope Works Ltd Ballynally Moville Co. Donegal	Pat McLaughlin Phone: (074)9382503 Email: silverstrand@eircom.net



24. Duct sealing Bags

	Company	Contact Details
1.	PowerPoint Engineering Kea-Lew Business & Retail Park, Mountrath Rd, Clonminam, Portlaoise, Co. Laois, R32 TRK4	Des Cassidy Phone: 057 866 2162. Email: info@powerpoint.ie

MV Substations – See ESB Specification 13320

1. Substation Doors

	Company	Contact Details
1.	Edwards Engineering & Maintenance Services Ltd, Castlemore, Tullow, Co. Carlow	Patrick Edwards Tel: 059 915 2224 Mob: 085 7130020 (Pat Edwards) Email: patrick@edwardsengineering.ie info@edwardsengineering.ie
2.	Fire Block Ltd, Údarás Industrial Estate, Ballymakeera, Co. Cork	The Estimating Department Tel: 026 45 560 Fax: 026 45 911 Email: info@fireblock.ie

2. GRP Duct Covers

	Company	Contact Details
1.	Relinea (formerly GRP Systems) 14 Crosshill Road Crumlin Co Antrim	Tel: 048 944 70010 Fax: 048 944 70020 Email: info@relinea.com Contact Name: Gareth Graham / Mark McClurkin
2.	Abanimus Limited Composites Division Unit 8 Hollyhill Industrial Estate Hollyhill Cork	Tel: +353 (0)21 2429403 Fax: +353 (0)21 4580494 Email: abanimus@abanimus.com
3	Edwards Engineering & Maintenance Services Ltd, Castlemore, Tullow, Co. Carlow	Patrick Edwards Tel: 059 915 2224 Mob: 0857130020(Pat Edwards) Email: patrick@edwardsengineering.ie info@edwardsengineering.ie

3. Prefabricated Earth Mat

	Company	Contact Details
1.	Edwards Engineering & Maintenance Services Ltd, Castlemore, Tullow, Co. Carlow	Pat Edwards Tel: 059 915 2224 Mob: 985 7130020 (Pat Edwards) Mob: 087 9165080 (Alan Edwards) Email: patrick@edwardsengineering.ie info@edwardsengineering.ie