

SMART conduit



Catalog 2017



Fitting & Piping System







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TECHNICAL DATA



1 • PRODUCT DESCRIPTION

1.1 WHAT IS THE SMARTCONDUIT SYSTEM

SMARTCONDUIT UL is designed for the conveyance and protection of power, earth bonding and data cables used in the underground wiring system of service stations and associated facilities.

Its heavy duty design allows it to withstand harsh conditions, making it ideally suited for long term service in a direct buried environment where corrosive or contaminated soils are encountered.

SMARTCONDUIT UL is installed using SMARTFLEX technology which is based on the electrofusion process, one of the most widely used in the polyethylene industry.

This joining method ensures that the fittings are permanently fused to the conduit for maximum adhesion and pull out strength. SMARTCONDUIT UL has a 30 year warranty.

Throughout this manual specific instructions will be given to achieve a reliable installation of the SMARTCONDUIT UL system.

It is the responsibility of the trained installer to respect to all manufacturer recommended practices and local regulations in order to avoid personal injury.

The operator must undergo a SMARTCONDUIT Certified Installer training course, with the SMARTCONDUIT competency prior to obtaining his/her Certified Installer credentials. Certified Installer training is valid for a period of three years.

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PRODUCT BENEFITS:

- HIGH RESISTANCE TO HYDROCARBON PERMEATION
- EXTREMELY SMOOTH INTERNAL WALL
- LOW FRICTION COEFFICIENT
- HIGH IMPACT RESISTANCE
- HIGH COMPRESSION AND COLLAPSE RESISTANCE
- EXCLUSIVE COLOR CODING FOR EASY IDENTIFICATION
- A FULL RANGE OF ELECTROFUSION OR MECHANICAL FITTINGS COMPLETES THE SMARTCONDUIT SYSTEM INCLUDING SECURE SEALED END FITTINGS AND ENTRY BOOTS THAT CAN BE WELDED THROUGH BARCODE TECHNOLOGY.

WARNING

This document contains recommendations and information regarding NUPIAmericas, Inc. products and their installation. It is based on currently available data and is believed to be representative of the product under specific conditions. However, such factors as environment, applications or installation, changes in operating procedure or extrapolation of data may cause different results.



1.2 PIPES & FITTINGS

A wide range of SMARTCONDUIT UL fittings are available and are listed in the table below:

CODE	OD	DESCRIPTION
TCONI01R100	1" IPS	conduit pipe - coil 328 ft
CMEI01	1" IPS	Electrofusion coupling
CAMI341NPT	1" IPS x 3/4" NPT	Male threaded transition
CAMI101NPT	1" IPS x 1" NPT	Male threaded transition
CAFI341NPT	1" IPS x 3/4" NPT	Female threaded transition
CAFI0101NPT	1" IPS x 1" NPT	Female threaded transition
CEB32	1"	Entry boot - rubber
CEBE32	1"	Electrofusion penetration fitting
SEBEFM32A	1"	Entry boot - SW fiberglass sumps
SEBEF32A	1"	Entry boot - DW fiberglass sumps
SASP3234NPT	1" x 3/4" NPT	Rigid conduit - HDPE coated
CLRSP134NPT	1" IPS x 3/4" NPT	Long riser steel pipe threaded NPT



NOTE

All SMARTCONDUIT UL electrofusion fittings are welded at safety observant minimum voltages in compliance with accident prevention standards. Electrofusion fittings are provided with an affixed barcode label, which allows for the acquisition of welding parameters via an optical pen or a digital scanner.

ELECTROFUSION FITTINGS

The electrofusion fitting range includes couplings (model CMEI) in 1" IPS size. They provide a secure and fast connection for conduit joins and fitting attachment.

SPIGOT FITTINGS

The spigot fitting range includes male and female brass NPT threaded adapters (model CAMI and CAFI). They are available in 1" IPS size and allow an easy and fast connection to metal threaded components.

ENTRY BOOTS

The mechanical entry boots (model CEB) assure a positive seal in all single wall sumps. They are available in 1" size.

The electrofusion entry boots for HDPE sumps (model CEBE) assure a fast and reliable connection utilising the electrofusion process. They are available in 1" size.

The electrofusion entry boots for fiberglass sumps (model SEBEFM_A and SEBEF_A) assure a reliable connection through a mechanical and epoxy bonding process suitable for both single wall and double wall sumps. They are available in 1" size.

PIPE RISERS

The pipe risers (model SASP and CLRSP) are a galvanised steel pipe covered by an external HDPE jacket. They have threaded ends to allow connection of metal parts to the HDPE components through either threads or electrofusion.





1.3 TOOLS & ACCESSORIES

MULTIFUNCTION WELDING UNIT

The SMARTFLEX multifunction welding unit (model SSEL) is suitable for SMARTCONDUIT UL installation. It has proprietary software designed to make the installer's task as easy and safe as possible. A user-friendly menu guides the user through the two possible operating modes:

- **Welding Mode**
- **Pressure Test Mode**

The unit can be used to install the SMARTCONDUIT UL electrofusion fittings.

TOOLS

The SMARTCONDUIT UL system includes a wide range of tools and equipment such as:

- SCUT3 – Pipe cutter
- RAM1 – Manual scraper
- MARK – White marker
- CHIAVE063 - Wrench

PRODUCT FEATURES

Material and Dimensional specifications

SMARTCONDUIT UL pipe is manufactured from a high performance HDPE that meets and exceeds the strict requirements of UL651A, for non metallic continuous length HDPE Conduit. The dimensions are typical of Schedule 40 conduit, as set forth in the following table:

Pipe Size (in.)	Average Outside Diameter (OD) (in.)	Schedule 40		Average Inside Diameter (ID) (in.)
		Max Wall (in.)	Min Wall (in.)	
1	1.315	0.153	0.133	1.029

Minimum Bending Radius

The minimum bending radius is 18 times the OD of the pipe, or in this case 24 in.

Pipe Packaging

SMARTCONDUIT UL pipe is provided in coils of 328 ft. They are protected against accidental damage with a plastic covering.

Features and Benefits:

- Ease of installation through the electrofusion process, no need for adhesives
- Long-term strength for extended life and performance
- Strength to withstand external loads
- Lightweight and flexible, allowing various installation methods to be used
- Low coefficient of friction, allowing longer and faster cable installations
- Resistance to corrosive chemicals and contaminated soils
- Moisture proof and watertight when fusion welded
- Extended outdoor storage life
- Resistance to rodent and white ant attack
- Available in long coil lengths thus requiring fewer joints and lower installation costs
- Traceability of installation via barcode technology





1.4 APPROVALS

SMARTCONDUIT UL is UL651A listed and is manufactured using high performance HDPE in accordance with the UL Schedule 40 conduit dimensions.

 ONLINE CERTIFICATIONS DIRECTORY	
EAZX.E319143 Rigid Nonmetallic Underground Conduit, Plastic	
Rigid Nonmetallic Underground Conduit, Plastic	
NUPIGECO SPA VIA STEFANO FERRARIO Z I SUD OVEST 21052 BUSTO ARSIZIO, VA ITALY	E319143
Continuous lengths of Schedule 40 HDPE conduit, trade size 1.	
Last Updated on 2009-02-04	
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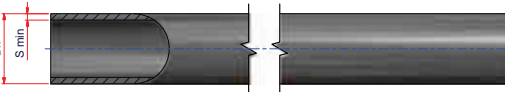
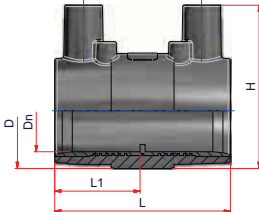


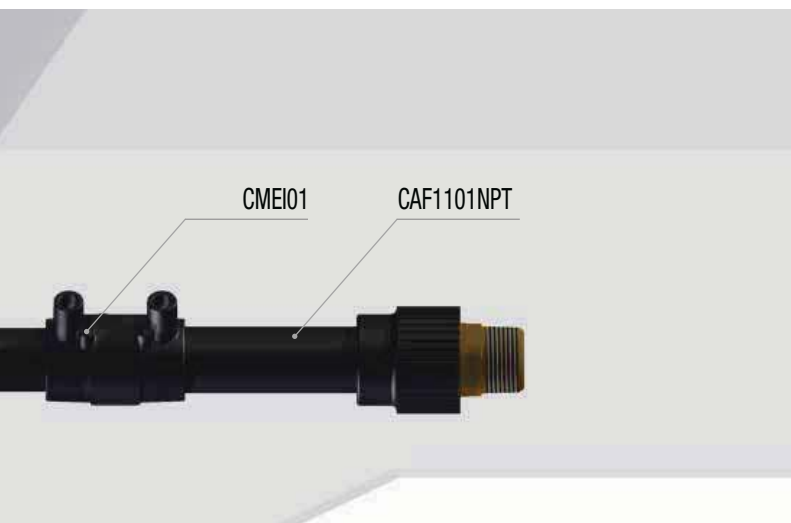
PIPE & FITTINGS - PRODUCT RANGE



1" PIPE SYSTEM

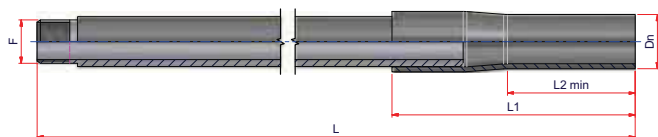


PIPE						
	MONOLAYER PIPE					
	CODE	Dn	S min	Weight		
	TCONI01R100	1"	0.14	0.23		
ELECTROFUSION FITTINGS						
	COUPLING - ELECTROFUSION					
	CODE	Dn	D1	L1	L	H
	CMEI01	1"	1.79	1.41	2.91	2.40



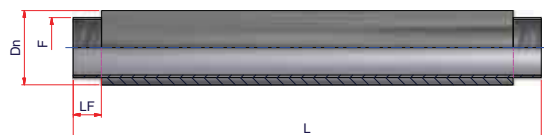
ADAPTERS

LONG RISER STEEL PIPE - HDPE COATED



CODE	Dn	F	L1	L2	L
CLRSP1346NPT	1"	3/4"	5.91	3.11	79.21
CLRSP13410NPT	1"	3/4"	5.91	3.11	120.00

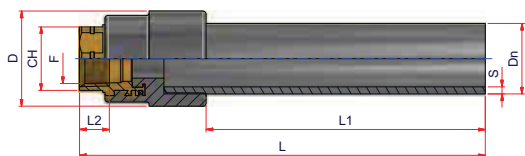
RIGID CONDUIT - HDPE COATED



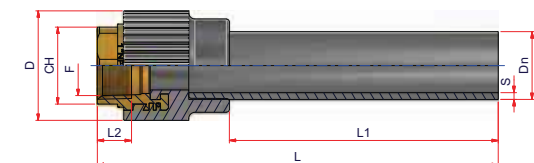
CODE	Dn	F	LF	L
SASP3234NPT	1"	3/4"	0.98	11.81



FEMALE THREADED TRANSITION

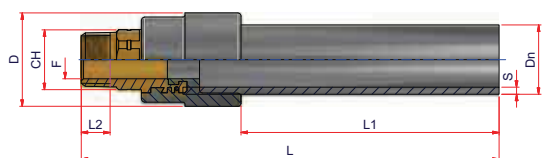


CODE	Dn	F	S	D	L	L1	L2	CH
CAFI341NPT	1"	3/4"	0.13	1.77	7.57	5.21	0.53	1.18

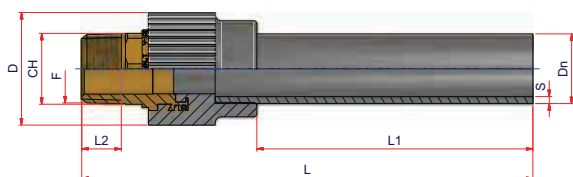


CAFI101NPT	1"	1"	0.13	2.13	7.77	5.21	0.66	1.50
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MALE THREADED TRANSITION

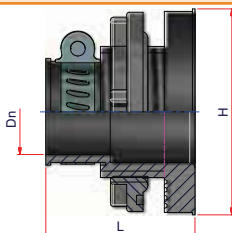
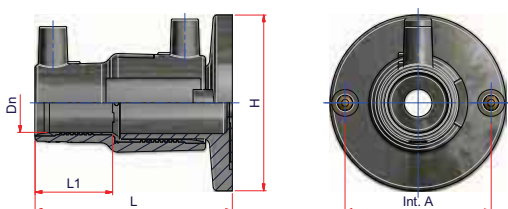
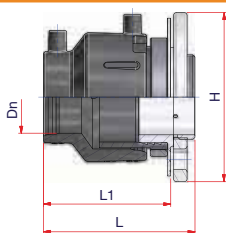
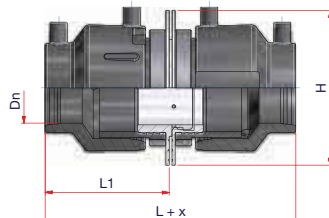
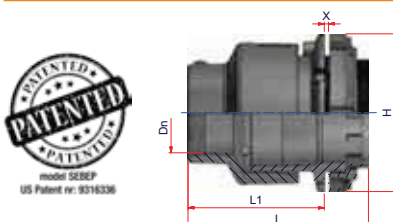


CODE	Dn	F	S	D	L	L1	L2	CH
CAMI341NPT	1"	3/4"	0.13	1.77	8.24	5.21	0.54	1.06



CAFI101NPT	1"	1"	0.13	2.13	8.52	5.21	0.68	1.34
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ENTRY BOOT						
	PENETRATION FITTING - RUBBER					
	CODE	Dn	L	H		
	CEB32	1"	2.20	3.03		
	FUSION PENETRATION FITTING					
	CODE	Dn	L1	L	H	Int. A
	CEBE32	1"	1.69	4.33	3.86	3.21
	PENETRATION FITTINGS FOR SW FIBERGLASS SUMPS - ALUMINIUM FLANGE					
	CODE	Dn	L1	L	H	
	SEBEFM32A	1"	5.55	6.38	4.72	
	PENETRATION FITTINGS FOR DW FIBERGLASS SUMPS - ALUMINIUM FLANGE					
	CODE	Dn	L1	L	H	
	SEBEF32A	1"	5.55	11.22 + x	4.72	
	MECHANICAL ELECTROFUSION ENTRY BOOT					
	CODE	Dn	L1	L	X	H
	SEBEP32	1"	4.80	6.02	0.20 ÷ 0.63	4.13





WELDING UNITS & ACCESSORIES



AUTOMATIC MULTIFUNCTION WELDING UNIT WITH BARCODE SCANNER

CODE	NOTES
SSEL8404/110	110V
<ul style="list-style-type: none">- Ambient temperature sensor- Welding voltage regulation 5-42 V- Download by means of USB technology- Power Max:1200 VA- Size: 19x11x7 in.- Weight: 41 lb- Index Protection: IP54	



AUTOMATIC MULTIFUNCTION WELDING UNIT WITH BARCODE SCANNER LIGHT VERSION

CODE	NOTES
SSEL8404L/110 *•	110V
<ul style="list-style-type: none">* welds up to DW Ø 4" piping• welding kit available- Ambient temperature sensor- Welding voltage regulation 5 - 42 V- Download by means of USB technology- Power Max: 1000 VA- Size: 12x8x6 in.- Weight: 29 lb- Index Protection: IP54	



CODE
BCSCAN8404



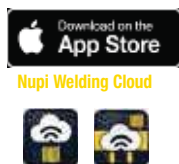
NEW



**MULTIFUNCTION WELDING UNIT
INCORPORATED IN SUITCASE
WITH BARCODE SCANNER**

CODE	NOTES
SSEL8404LP/110	110V
<ul style="list-style-type: none">- Ambient temperature sensor- Welding voltage regulation 5-42 V- Download by means of USB technology- Power Max:1500 VA- Size: 20x16x8 in.- Weight: 35 lb- Index Protection: IP54	

NEW



**MULTIFUNCTION - SMART - WELDING UNIT
INCORPORATED IN SUITCASE
WITH BARCODE SCANNER
LIGHT VERSION**

CODE	NOTES
SMARTWELDLIGHT/110	110V
<ul style="list-style-type: none">- Ambient temperature sensor- Welding voltage regulation 5-42 V- Download by means of USB technology- Power Max:1500 VA- Size: 20x16x8 in.- Weight: 35 lb- Index Protection: IP54	



CODE
BPEN8404



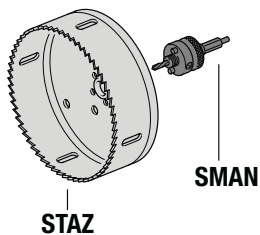
MANUAL SCRAPER

CODE	NOTES
RAM1	small
RAM2	large



PIPE CUTTER

CODE	Ø	NOTES
SCUT3	1"	
SLRCUT		spare blade



HOLE SAW AND MANDREL

CODE	NOTES
STAZ214	for codes: CEB32, CEBE32, SEBEFM32A, SEBEF32A Ø 1"
STAZ318	for code: SEBEP32 Ø 1"
SMAN	mandrel



MARKER

CODE	NOTES
MARK	white marker



WRENCH

CODE

NOTES

CHIAVE063

for code: SEBEP32
Ø 1"



EPOXY FOR FIBERGLASS PENETRATION FITTINGS

CODE

NOTES

SACB019

7 FL OZ

SACB020

13 FL OZ

SACB022

20 FL OZ



PETROSEAL MANUAL DIPSENSING GUN

CODE

NOTES

SACB021

use w/items SACB



HDPE DETERGENT

CODE

NOTES

LID1

13 FL OZ





1 PROVISIONS OF THE CONTRACT

The purchase and sale of the goods and services relating to the SMARTFLEX System, (collectively "Products") by NUPI Americas, Inc. is governed by, and subject to, the following terms, covenants and conditions.

2 TERMS AND MEANS OF PAYMENT

The purchase price shown on the invoice issued by NUPI Americas, Inc. in connection with the purchase and sale of the products described therein is due and payable by the purchaser on or before the date, and in the manner, provided for under such invoice. Interest shall accrue on all past due balances at the annual rate equal to the lesser of (i) eighteen per cent (18%); or (ii) the highest rate allowed by the laws of the State of Texas, until such invoice amounts, and accrued previously unpaid interest, have been paid in full. All prices on any document or correspondence issued by NUPI Americas, Inc. shall be understood to be in United States dollars. Any and all sums due and payable hereunder, or under any invoice, shall be due and payable at the offices of NUPI Americas, Inc. in Houston, Texas.

3 TERMS OF DELIVERY

The products covered by the terms of an order accepted and confirmed in accordance with the provisions of Paragraph 5 hereof, shall be shipped to the purchaser on the terms and conditions set forth and established on the order confirmation issued by NUPI Americas, Inc. While NUPI Americas, Inc. will undertake reasonable efforts to comply with purchaser's requested shipping dates, no provision of these terms of sale, the order confirmation, or any other agreement between purchaser and NUPI Americas, Inc. be interpreted to (i) constitute NUPI Americas, Inc.'s guarantee of specific shipping dates; or (ii) impose any liability for damages, including without limitation any consequential and/or exemplary damages, on the part of NUPI Americas, Inc. in the event of NUPI Americas, Inc.'s delayed performance under this agreement or in connection with the delayed shipment, or delivery, of the products.

4 RESERVATION OF SECURITY INTEREST

NUPI Americas, Inc. hereby reserves a purchase money security interest in the products provided hereunder, or any other agreement between purchaser and NUPI Americas, Inc., to secure the payment and performance of purchaser's payment obligations hereunder. Any provision of these terms of sale, the order confirmation or any other agreement between purchaser and NUPI Americas, Inc. to the contrary notwithstanding, any and all risks of loss of the products, and any and all other risks associated with the products, are, and shall be, transferred to, and assumed by, the purchaser on the date of shipping of such products by NUPI Americas, Inc.

In the event of purchaser's payment default, NUPI Americas, Inc. may, in addition to any other remedies at law or otherwise, reclaim the products and /or retain any and all sums previously paid by, or on behalf of, purchaser for such products.

Any default by purchaser under the terms hereof shall, at NUPI Americas, Inc.'s option, constitute an event of default under any other agreement to which purchaser and NUPI Americas, Inc. are parties.

5 ORDER ACCEPTANCE

No order from a purchaser shall become binding upon NUPI Americas, Inc. unless expressly accepted, and confirmed, in writing by NUPI Americas, Inc., within five (5) days after receipt of order. Orders and/or modifications of orders which have been made orally or by telephone must be confirmed in writing by the purchaser and the same shall not become binding upon NUPI Americas, Inc. unless approved and confirmed, in writing, by NUPI Americas, Inc.

6 HANDLING FEE

A handling fee of Fifty Dollars (\$50.00) will be charged to any purchase order of less than One Thousand Dollars (\$1,000.00).

7 PRODUCT ACCEPTANCE

Any claim or objection concerning one or more product acquired pursuant to these terms of sale, the order confirmation or any other agreement between the purchaser and NUPI Americas, Inc. must be in writing, and received by NUPI Americas, Inc. within ten days after delivery of such products to purchaser, otherwise the products shall be deemed to have been accepted.

8 PRODUCT COMPLIANCE AND WARRANTY

Subject to the provisions of paragraphs 9 and 10 hereof, NUPI Americas, Inc. guarantees that the products comply with the technical specifications stipulated in the order confirmation, and the technical specifications published by NUPI Americas, Inc. covering the products in effect on the shipping date of such products.

9 PRODUCT INSTALLATION AND LIABILITY

The performance and the cost for product installation is the responsibility of the purchaser. Accordingly, the purchaser assumes all responsibility for compliance with (and liability for failure to comply with) any and all applicable statutes, laws, rules and regulations relating to the suitability, compliance and safety of the products and the installation, the use of the products, the site at which the products will be installed and used, and the ultimate user of the products. Installation of the products must be performed by qualified installers who have been trained and certified by NUPI Americas, Inc. and whose work complies in all respects with the specifications and installation standards promulgated by NUPI Americas, Inc. Accordingly, the purchaser further assumes all liability resulting from the purchaser's failure to provide copies of such specifications and installation standards and the brochures and other written materials covering the same to such installation personnel. Purchaser shall defend, indemnify and hold NUPI Americas, Inc. harmless from and against any and all claim, actions, damages, costs (including costs of litigation and settlement) arising, or alleged to have arisen in connection with any and all damages caused by, or resulting from any improper installation, lack of maintenance or improper use of the products.

10 WARRANTY

NUPI Americas, Inc. warrants that products sold by it which are incorporated in its SMARTFLEX Piping System shall be of good materials and workmanship and free from functional defects for a period of thirty (30) years from the date of sale, excepting valves, flex connectors, entry, terminating and test rubber boots, gaskets and o-rings, and products containing electrical components, which shall be of good materials and workmanship and free from functional defects for a period of one (1) year from the date of sale; provided that such products are properly installed in accordance with NUPI Americas, Inc.'s specifications and published instructions by qualified installers who have been trained and certified by NUPI Americas, Inc. These respective warranties shall become immediately null and void if the products to which they apply: (i) are employed in above-ground applications; (ii) are installed by anyone other than an installer trained by NUPI Americas, Inc.; or (iii) are installed in a manner which fails to comply with NUPI Americas, Inc.'s written installation instructions. AS THE SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF THE LIMITED WARRANTIES SET FORTH ABOVE, NUPI Americas, Inc. WILL REPLACE NONCONFORMING GOODS OR REFUND THE PURCHASE PRICE. THESE LIMITED WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE CONCERNING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THESE LIMITED WARRANTIES ARE ALSO IN LIEU OF ANY OTHER POSSIBLE LIABILITIES OF NUPI Americas, Inc., WHETHER ALLEGED TO HAVE ARISEN BY AGREEMENT OR BY OPERATION OF LAW, RESPECTING THE SALE, INSTALLATION, USE OR FUNCTION OF NUPI Americas, Inc.'S PRODUCTS, INCLUDING, WITHOUT LIMITATION, CLAIMS OF NEGLIGENCE, GROSS NEGLIGENCE, STRICT LIABILITY OR ANY OTHER TORT. IN NO EVENT SHALL NUPI Americas, Inc. BE LIABLE FOR PERSONAL INJURY OR DAMAGE TO REAL OR PERSONAL PROPERTY ATTRIBUTED TO ITS PRODUCTS, NOR FOR ANY EXCAVATION, REMOVAL, DOWNTIME, CLEANUP, REMEDIATION, LOSS OF USE, LOSS OF OPPORTUNITY, LOSS OF MARKET VALUE, LOSS OF RENTAL VALUE, LOSS OF PROFITS, LOSS OF PRODUCTION, OR OTHER SPECIAL, INCIDENTAL, RESULTING, CONSEQUENTIAL OR EXEMPLARY DAMAGES.

No person is authorised by NUPI Americas, Inc. to accept for it any other liability of any kind in connection with the sale or use of products sold and/or marketed by it.

11 RETURN MATERIALS POLICY

Any provision of these terms of sale to the contrary notwithstanding, no purchaser shall be authorised to return any products to NUPI Americas, Inc. unless:

- * NUPI Americas, Inc. authorises the return of the products in writing;
- * The products are returned to such address specified by NUPI Americas, Inc. prepaid freight in original packaging and accompanied by copy of the return authorization and
- * The return of the products will result in the issuance by NUPI Americas, Inc. of a credit which may be used by the purchaser for future purchases of products, from which credit shall be deducted a restocking charge in an amount equal to twenty per cent (20%) of the purchase price of the returned products.

12 GOVERNING LAW

These terms of sale shall be governed by and construed in accordance with the laws of the State of Texas and the applicable laws of the United States of America. Courts within the State of Texas shall have jurisdiction over any and all disputes arising under or pertaining to these terms of sale, any order confirmation issued hereunder, and any modification of, or amendment to, the same, and venue for any such dispute shall be in Texas.