EURAPIPE

# EURAPIPE®
# ABS BLUE PRESSURE PIPE CATALOGUE

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# EURAPIPE

## COMPANY PROFILE

Euratech Industries Sdn. Bhd., a wholly owned Malaysian company by has within itself a group of highly trained and dedicated staff in the design, manufacture, installation and operation of its products. The company is committed to a continuing program of quality and reliable products and services. A comprehensive technical advisory service is available from the company's technical service engineers including design of special customers' requirements, application advice and other information.

Our ABS products are manufactured and conformed to the local engineering quality Malaysia Standard which is MS1419:2007.

Euratech Industries Sdn. Bhd. is also accredited to ISO9001:2008 Quality System.

Euratech Industries Sdn. Bhd. is principally engaged in the manufacturing and sales of Eurapipe ABS pressure pipes and fittings. Our products are widely used in a variety of industries such as:

- Water reticulation
- Domestic plumbing
- Water treatment plants
- Waste water treatment and recycling plants
- Power generation plants
- Industrial plants such as electronics, food processing, chemical, paper mills, palm oils and rubber mills.
- HVAC

It is Euratech's corporate objective to be the preferred supplier for high quality advanced thermoplastic piping systems by meeting our customers' needs in a timely and effective manner by giving full technical support and advice.

EURAPIPE ABS blue piping systems have complete size range from DN15 to DN150. Standard pressure ratings at 20°C starts at 1200 KPa and goes up to 1500 KPa (Class D to Class E)

# EURAPIPE

# EURAPIPE ABS PRESSURE PIPE SYSTEM

## INTRODUCTION

ABS thermoplastics piping system is recognised as one of the suitable materials to be used in many industries and domestic plumbing markets.

The material is very tough and resilient, has high impact strength, good chemical resistance, non-toxic and taint free.

The Eurapipe ABS piping systems comprises of a range of matched pressure pipes and fittings, joined together by cold solvent cement welding.

## THE MATERIAL

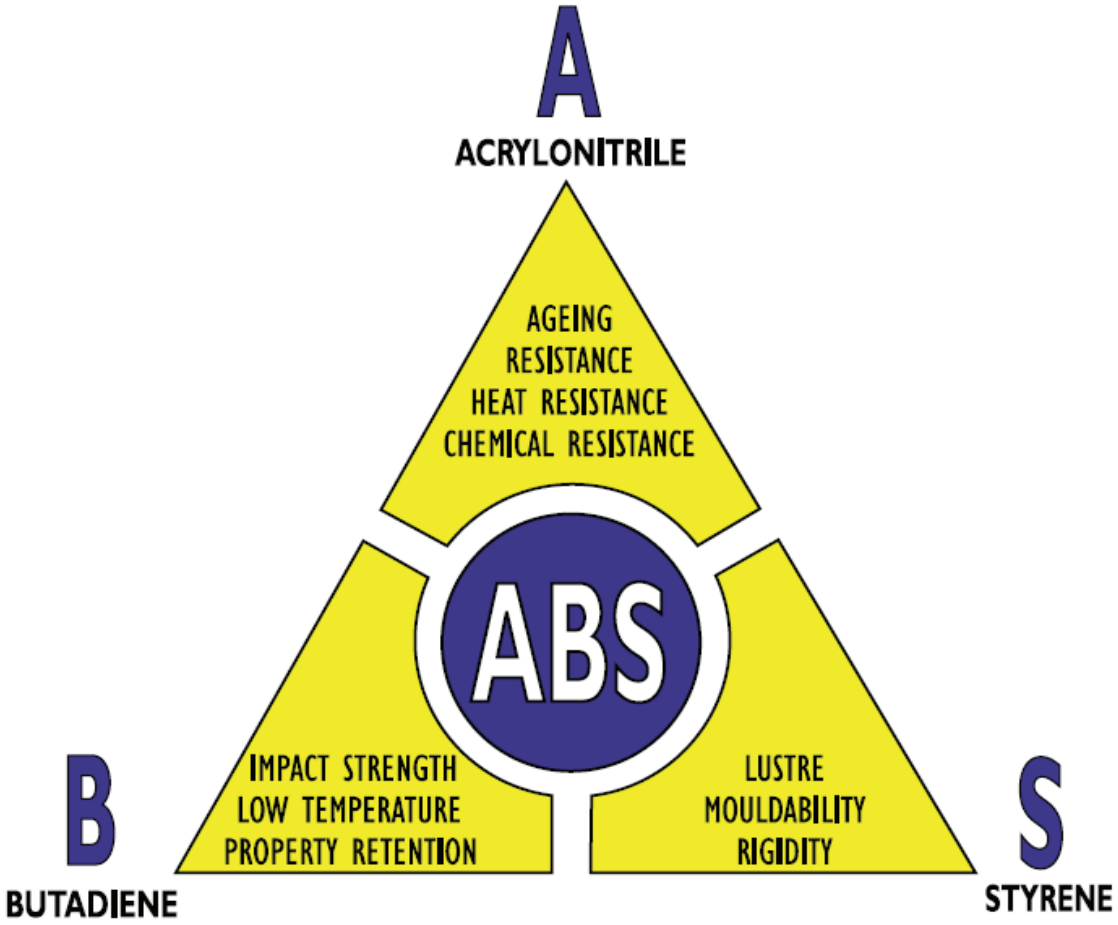
Acrylonitrile – Butadiene – Styrene (ABS) identifies as a family of engineering thermoplastics with a broad range of performance characteristics.

The copolymeric system is alloyed to yield the optimum balance of properties suited to the selected end use.

ACRYLONITRILE - Impact chemical resistance and rigidity

BUTADIENE - Endows the product with impact strength, toughness and abrasion resistance.

STYRENE - Contributes to the lustre, ease of processing and rigidity



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# EURAPIPE ABS PRESSURE PIPE SYSTEM

## MATERIAL PROPERTIES

The formulation used by Euratech has been developed in conjuction with polymer manufacturers to optimize performance with respect to tensile strength, chemical resistance, ductility, resistance to weathering, heat stability, taint free and ease of processing from raw material to finished product.

ABS is tough and strong over the recommended temperature range of -30$^{0}$C to +60$^{0}$C.

The outstanding properties of ABS are:
. High Impact strength and ductility, which combine to give exceptional toughness.

. Good chemical resistance

. Abrasion resistance

. High strength solvent weld jointing which allows efficient system assembly and modification

. Withstands aggresive groun waters

. High strain tolerance for buried applications

. Suitable for exposed weather application

. Better flow rate

| PROPERTY | REFERENCE TEMPERATURE (°C ) | S.I. UNIT | OTHER UNITS |
|---|---|---|---|
| ULTIMATE TENSILE STRENGTH (STRAIN RATE 50MM/MIN) ASTM D638 TYPE I | 20 | 40 MPa | 5,800 lbf/in$^2$ |
| ELONGATION AT BREAK | 20 | 50% | 50% |
| INSTANTANEOUS FLEXURAL MODULUS | 20 | 2,200 MPa | 319,072 lbf/in$^2$ |
| COMPRESSIVE STRENGTH | 20 | 42 MPa | 6,100 lbf/in$^2$ |
| IZOD IMPACT STRENGTH (NOTCHED) ASTM D256 (METHOD A) | 23 | 340 J/m notch | 6.4 ft lb/in notch |
| SPECIFIC GRAVITY @20°C | | 1.05x 10$^3$ kg/m$^3$ | 65.5 x 10$^{-3}$ lb/ft$^3$ |
| VICAT SOFTENING POINT ASTM D1525 | | 95°C | 203°F |
| COEFFICIENT OF THERMAL EXPANSION | | 10.1x 10$^{-5}$m/m°C | 5.6x 10$^{-5}$ ft/ft°F |
| MAXIMUM OPERATING TEMPERATURE | | 60°C | 140°F |
| POISSON'S RATIO | | 0.35 | |
| THERMAL CONDUCTIVITY | | 0.2W/m°C | 1.3 BTU/ft$^2$/in/°F |
| SPECIFIC HEAT | | 1.47KJ/kg°C | 0.35 BTU/lbm/°F |
| ABSOLUTE ROUGHNESS | | 0.003mm | 0.0000098ft |
| DIELECTRIC CONSTANT | | | 3.20@ 60 Hz |
| | | | 3.12@ 10$^3$ Hz |
| | | | 2.90@ 10$^6$ Hz |

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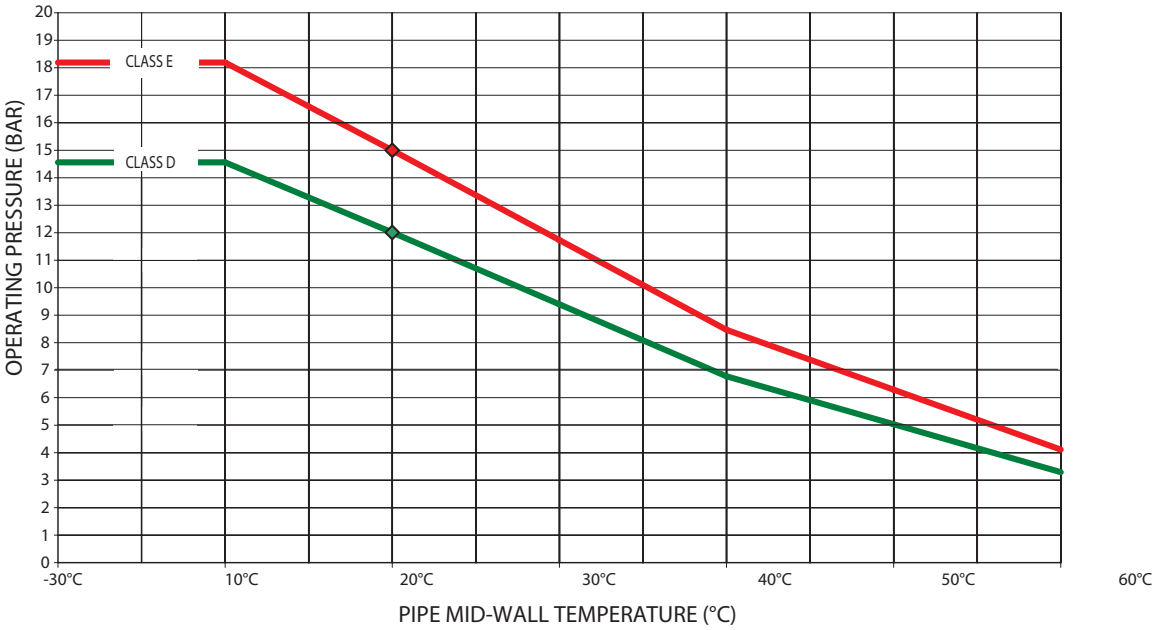
# EURAPIPE ABS PRESSURE PIPE SYSTEM

## PRESSURE/ TEMPERATURE DERATING

All thermoplastic piping system pressure ratings apply at the standard mid-wall temperature of 20°C. Where systems are required to operate at higher continuous mid-wall temperatures, pressure rating must be adjusted in accordance with the following graph. The pressure values from 10°C up to 50°C are for 50 years design life, whereas for 60°C are for 20 years design life.

Operating pressure based on temperature rerating



# EURAPIPE

# EURAPIPE ABS PRESSURE PIPE SYSTEM

# ADVANTAGES

## 1. ABRASION RESISTANCE

EURAPIPE ABS offers outstanding resistance to abrasion and erosion from aggressive slurries which can rapidly damage steel or other traditional pipe materials.

## 2. WEATHER RESISTANCE

EURAPIPE ABS is one of the most weather resistant polymers available today. Successful field tests have been completed on piping systems having been exposed to weathering for over 30 years.

## 3. LIGHT WEIGHT

ABS is one-sixth the weight of steel systems, making EURAPIPE easy to handle and install. This reduces the cost of installation, handling and transport.

## 4. CHEMICAL RESISTANCE

EURAPIPE ABS is unaffected by both internal and external attack by a wide range of acids, alkalis, ground water salts and other environmental factors. Please refer to Euratech for further information.

| QUICK REFERENCE CHEMICAL REISISTANCE | |
|---|---|
| Chemical | Resistance |
| Weak acids | Good resistance |
| Strong acids | Limited resistance |
| Weak alkalis | Good resistance |
| Strong alkalis | Good resistance |
| Aggressive soils | Excellent resistance |
| Metal salts | Good resistance |
| Sea water | Excellent resistance |
| Aromatic hydrocarbons | Poor resistance |
| Organic solvents | Poor resistance |

## 5. NON-TOXIC/ TAINT FREE

The ABS formulation contains no harmful metallic stabilizers and it has been widely used for many years in piping systems for drinking water, medical preparations, food products and potable water. EURAPIPE ABS system is ideal for potable cold water. It conforms to World Health Organisation, E.E.C., AS4020 / BS6920 and MS1583 requirement for potable water reticulation and distribution.

## 6. EXCEPTIONALLY SMOOTH BORE

EURAPIPE ABS does not suffer from internal corrosion and provides a smooth bore for the life of the piping systems. The smooth bore does not support formation of scale and slime as do cement based lined products.

## 7. COLD SOLVENT WELD JOINING

The EURAPIPE size range also utilizes the proven traditional method of joining ABS pipes, cold solvent cement welding, which provides a homogenous bond between pipes and fittings (SWJ).

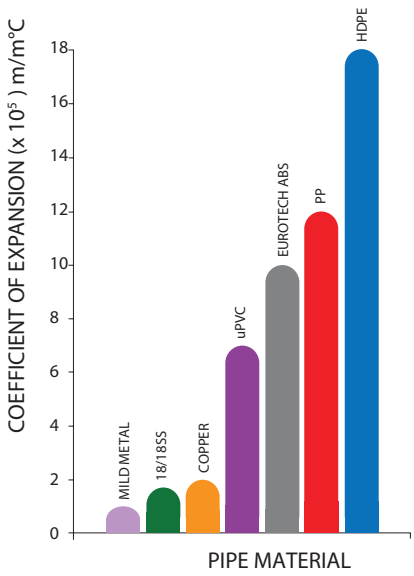
## 8. TEMPERATURE RANGE

A great advantage of EURAPIPE ABS over other plastic systems is its ability to perform over a wide temperature range from -30°C to +60°C. This makes EURAPIPE ABS very versatile and capable of handling a wide variety of fluids from refrigerants to moderately hot corrosive liquids

## 9. THERMAL EXPANSION

All thermoplastics expand at a greater rate than metal as shown in the diagram below.

Expansion need not cause undue concern in design or installation of an ABS piping system provided that due recognition is taken at the design stage. The reduced flexural modulus of ABS over that of steel results in reduced loads on supports and equipment arising from thermal strains. The linear coefficient of thermal expansion of ABS is 10.1 x $10^{-5}$ m/m°C.



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# EURAPIPE ABS PRESSURE PIPE SYSTEM

# ADVANTAGES

## 10. ENVIRONMENTAL

The use of ABS contributes positively to the environment as it takes approximately one sixth of the energy to manufacture compared to metal products. This has direct savings in greenhouse gas emmissions. Additionally ABS is lead and chlorine free and can be readily recycled.

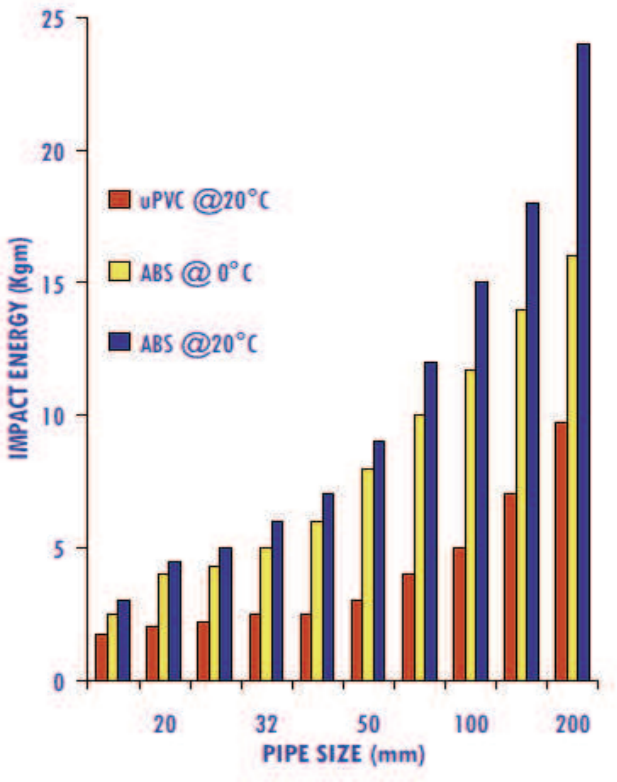
## 11. IMPACT STRENGTH

The butadiene constituent in ABS affords unrivalled resistance to impact. This means that EURAPIPE PIPING SYSTEMS may be used in more critical applications where other types of plastics could not be considered.

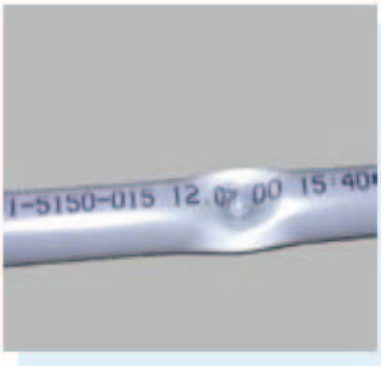
ABS is ductile material and the mode of failure resembles that of soft copper.

Failure is by ductile distortion and tearing, the localized nature minimizining the loss of pipe contents.

In contrast, crack propagation and hazardous material fragmentation accompany the failure of brittle material.







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## EURAPIPE ABS BLUE PIPING SYSTEM

## PIPE DIMENSION

EURAPIPE ABS PIPE DIMENSION TABLE (MS1419: 2007)

| Code | Size | Inches | Pipe Class | OD Mean (mm) | WT Mean (mm) | ID Mean (mm) | Weight kg/m |
|---|---|---|---|---|---|---|---|
| R07.513.015 | DN15 | ½" | E | 21.4 | 2.2 | 17.0 | 0.14 |
| R07.513.020 | DN20 | ¾" | E | 26.8 | 2.7 | 21.4 | 0.21 |
| R07.512.025 | DN25 | 1" | D | 33.6 | 2.7 | 28.1 | 0.28 |
| R07.513.025 | DN25 | 1" | E | 33.6 | 3.3 | 26.9 | 0.33 |
| R07.512.032 | DN32 | 1 ¼" | D | 42.3 | 3.4 | 35.5 | 0.44 |
| R07.513.032 | DN32 | 1 ¼" | E | 42.3 | 4.1 | 34.0 | 0.52 |
| R07.512.040 | DN40 | 1 ½" | D | 48.3 | 3.9 | 40.5 | 0.57 |
| R07.513.040 | DN40 | 1 ½" | E | 48.3 | 4.7 | 38.8 | 0.68 |
| R07.512.050 | DN50 | 2" | D | 60.4 | 4.8 | 50.7 | 0.88 |
| R07.513.050 | DN50 | 2" | E | 60.4 | 5.9 | 48.6 | 1.06 |
| R07.512.065 | DN65 | 2 ½" | D | 75.1 | 6.0 | 63.1 | 1.36 |
| R07.513.065 | DN65 | 2 ½" | E | 75.1 | 7.3 | 60.5 | 1.63 |
| R07.512.080 | DN80 | 3" | D | 88.9 | 7.0 | 74.8 | 1.90 |
| R07.513.080 | DN80 | 3" | E | 88.9 | 8.6 | 71.7 | 2.28 |
| R07.512.100 | DN100 | 4" | D | 114.3 | 9.0 | 96.3 | 3.13 |
| R07.513.100 | DN100 | 4" | E | 114.3 | 11.0 | 92.2 | 3.76 |
| R07.512.150 | DN150 | 6" | D | 168.3 | 13.2 | 141.8 | 6.75 |
| R07.513.150 | DN150 | 6" | E | 168.3 | 16.2 | 135.9 | 8.12 |

Notes

1. All values quoted are average and are subjected to manufacturing tolerances
2. Stamdard pipe length supplied is 5.8m. Lengths up to 11.6m available upon request
3. Other sizes such as 125mm are available upon customer order.
4. Rated working pressure is based on $20^0$ C
5. Class D is equivalent to PN12 and class E is equivelent to PN15.

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## EURAPIPE ABS BLUE PIPING SYSTEM

## FITTINGS (MS1419:2007)

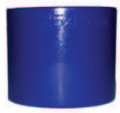
PLAIN SOCKET

CODE 100

FAUCET SOCKET

CODE 101

VALVE ADAPTOR/
HEXAGON NIPPLE
CODE 107



REDUCING BUSH

CODE 109

REDUCING SOCKET

CODE 114

ELBOW 90$^{o}$

CODE 115

FAUCET ELBOW 90$^{o}$

CODE 116

ELBOW 45$^{o}$

CODE 119

TEE THREADED OFFTAKE

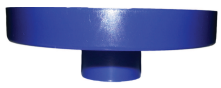
CODE 121

EQUAL TEE

CODE 122

REDUCING TEE SOCKET

CODE 122



FULL FACE FLANGE
OFFTAKE
CODE 129

# EURAPIPE

## EURAPIPE ABS BLUE PIPING SYSTEM

## FITTINGS (MS1419:2007)

STUB FLANGE

CODE 135

END CAP

CODE 140

VALVE SOCKET/
MALE ADAPTOR
CODE 151

FAUCET ADAPTOR

CODE 153

THREADED PLUG

CODE 155

GASKET (STUB STYLE)

CODE 431

PIPE CLIP

CODE 434

BALL VALVE
DOUBLE UNION
CODE 880K

BALL CHECK VALVE

CODE 836K, 838K


ABS SOLVENT CEMENT
( 1 LITRE )
CODE 461


ABS SOLVENT CEMENT
c/w BRUSH (500ML)
CODE 461


MEK CLEANER/PRIMER

CODE 463

# INSTALLATION PROCEDURE

## PREPARATION

1

Prepare and inspect the pipe. Pipe with scratches, gauges or dents more than 10% of the pipe wall thickness shall not be used.

Joining surface must be clean and free from water, dirt, oils or any foreign matter to ensure a good weld.


2

The ends of the pipes shall be cut square and chamfered.

All burrs shall be removed.

3

Dry fit the joint without forcing the pipe into the fitting.

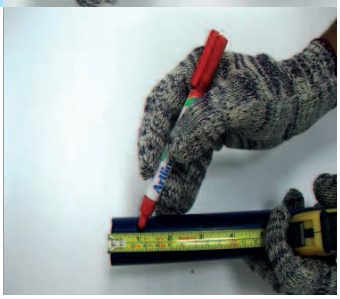
If the pipe cannot enter into the fitting or does not bind up before reaching the end of the fitting, DO NOT continue with the joint.

4

Measure the distance from the mouth of fitting to stopper (Insertion depth)

5

Mark the insertion depth + 10mm from the end of the pipe and this served as the witness mark in order to identify when the joint is fully “home”.



# INSTALLATION PROCEDURE

6

Abrade and clean outer surface of the pipe and inner surface of fitting by using the sand paper.

7

Wipe over the surfaces with a clean dry rag/ brush to ensure the surface is clean.
Immediately before joining, thoroughly wipe the abraded surfaces with a clean rag/brush moistened with MEK Cleaner.

Apply only one coat of the MEK cleaner.


## JOINING

1

Stir solvent cement before use.

Using the brush to apply the solvent cement to the pipe and the fittings.
A thin layer of solvent should be sufficient to have a good join.

DO NOT apply solvent cement onto the pipe over the witness mark

DO NOT pour the solvent cement onto the pipe or allow puddles to form

2

Immediately after applying the solvent cement, push fully “home” using the mark on the pipe as the guide.

DO NOT twist fitting on the pipe.

After this process done, wipe off the excessive solvent cement by using the clean rags.

Hold on the joint until it reaches the holding time.

Different pipe size requires different holding time.

All information contained in this catalogue has been complied and presented in good faith and is subject to change without notice. Euratech Industries Sdn. Bhd. makes no express or implied warranty of any kind regarding the accuracy of the information contained herein.

Euratech Industries Sdn. Bhd. reserves the right to withdraw or alter the specification of any product without notice. The product listed in this catalogue have been designed and manufactured to be in accordance with the instructions guiding their use, care and maintenance. The products should not be used for any purpose other than those for which they were designed.

For further information regarding these products, reference should be made to the instructions and the guidelines for care and use issued by Euratech Industries Sdn. Bhd. representative listed on this publication.

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SPAN

CERT. NO. 403318

SIRIM

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