

**Dagangan** : HEAT SHRINKABLE ROUND TUBING OF POLYETHYLENE

Nama Perdagangan : Heavy Wall Heat-Shrinkable Insulating Tube with Adhesive GT4

Jenama : Nexans  
Model : GT4

**Kod Tarif (Perintah Duti Kastam 2012) :**

3917.32 920 (PDK 2012)  
3917.32.93 00 (PDK 2017)

**Tarikh Kelulusan** : 03 Mac 2017

**Keterangan barangan :**

Barangan dikenali sebagai *GT4 Heavy Wall Heat-Shrinkable Insulating Tube (with adhesive GT4)* merupakan tiub plastik dalam bentuk bulat, berwarna hitam, bersifat *non-rigid tubes* dan berongga iaitu mempunyai ruangan kosong di bahagian tengah dan terdapat bukaan di kedua-dua hujungnya (*open at both ends*) seperti gambar berikut :



Berdasarkan pengesahan daripada pemohon, barangan diimport dalam bentuk bulat. Saiz, ketebalan dan dimensi barangan terdiri seperti berikut :

- (a) ***in cut of length*** (500mm & 1000mm – GT4-15, GT4-20, GT4-30, GT4-40, GT4-50, GT4-70, GT4-90, GT4-120, GT4-140, GT4-160, GT4-180,GT4-200).

type	Ø as supplied (mm)	Ø after full recovery (mm)	Tk wall thickness after full recovery (mm)	L (m)	pieces/box
GT4-15	≥ 16,0	≤ 4,0	≥ 2,4	1,5	250
GT4-20	≥ 22,5	≤ 5,0	≥ 2,8	1,5	200
GT4-30	≥ 33,0	≤ 7,0	≥ 4,0	1,5	80
GT4-40	≥ 45,0	≤ 12,0	≥ 4,5	1,5	40
GT4-50	≥ 55	≤ 16,0	≥ 4,5	1,5	35
GT4-70	≥ 70,0	≤ 20,0	≥ 4,5	1,5	20
GT4-90	≥ 92,5	≤ 22,0	≥ 4,5	1,5	12
GT4-120	≥ 130	≤ 30,0	≥ 4,5	1,5	8
GT4-140	≥ 149,0	≤ 42,0	≥ 4,5	1,5	6
GT4-160	≥ 160,0	≤ 48,0	≥ 4,5	1,5	5
GT4-180	≥ 177,5	≤ 48,0	≥ 4,5	1,5	4
GT4-200	≥ 200,0	≤ 48,0	≥ 4,5	1,5	4

GT4 tubing also available without adhesive. Please contact our sales offices. MOQ applies.

Berdasarkan *Technical Characteristics*, spesifikasi barangan adalah seperti berikut:

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<b>Product Description</b>	
<i>Product Name</i>	<i>GT4 Heavy Wall Heat-Shrinkable Insulating Tube (with adhesive)</i>
<i>Application</i>	<i>GT4 is a heavy wall co extruded tubing with adhesive. The tube sizes and recovered wall thickness are in full compliance with the DIN47640 specifications. UV and weather resistant, provides excellent abrasion and impact resistance for LV or MV joints.</i>

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<b>Technical Characteristics</b>	
<i>Material</i>	<i>Crosslinked polyolefin</i>
<i>Colour</i>	<i>Black</i>
<i>Continuous operating temperature</i>	<i>-40°C to +135°C</i>
<i>Minimum shrink temperature</i>	<i>125°C</i>
<i>Density</i>	<i>1, 1g/cm<sup>3</sup> ±10% (ASTM D-1505/ISO R1183)</i>
<i>Tensile strength</i>	<i>20 ÷25 N/mm<sup>2</sup> (ASTM D-412 / ISO 37)</i>
<i>Ultimate elongation</i>	<i>500% ÷ 600% (ASTM D-412 / ISO 37)</i>
<i>Dielectric constant</i>	<i>&lt;5 (IEC 250)</i>
<i>Volume resistivity</i>	<i>&gt;1x10<sup>13</sup> Ohm.cm (IEC93)</i>
<i>Dielectric strength</i>	<i>&gt;15kV/mm (IEC 243)</i>
<i>Water absorption</i>	<i>&lt;0,2% (DIN53495 / ISO 92)</i>
<i>Fungus and mildew resistance</i>	<i>GLO (ASTM G 21)</i>
<i>Contents of carbon black</i>	<i>&gt;2,5% (ASTM2671)</i>
<i>Chemical resistance</i>	<i>Treatment with 0,1NNa<sub>2</sub>SO<sub>4</sub>, H<sub>2</sub>SO<sub>4</sub>, NaOH, NaCl</i>

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Berdasarkan *Safety Data Sheet*, maklumat barangan adalah seperti berikut:

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<b>Product Identification</b>	
<i>Product Name</i>	<i>GT3/GT4</i>
<i>Relevant identified uses</i>	<i>Insulation heat shrink tube with adhesive</i>

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<b>Physical And Chemical Properties</b>	
<i>Physical State</i>	<i>Solid</i>
<i>Water Solubility</i>	<i>Insoluble</i>

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Berdasarkan surat pengesahan daripada pemohon, barangan diimport digunakan sebagai *component in 10kV to 52kV cable joints and terminations to electrical machine (motor, generator) and equipment (switchgear, transformer), the primary functions are for wholly of insulating material and design for insulating purposes.*

Applikasi penggunaan barangan adalah dengan memasukkan tiub pada substrat di mana diameternya boleh dikurangkan kepada saiz yang telah ditetapkan melalui kawalan haba kepada barangan. Tiub tersebut akan mengecut mengikut kesesuaian dengan bentuk substrat seperti gambarajah di bawah:



Maklumat mengenai **heat shrinkable tubing** adalah seperti berikut:

Heat shrink tubing (or, commonly, heat shrink or heat shrink) is a shrinkable plastic tube used to insulate wires, providing abrasion resistance and environmental protection for stranded and solid wire conductors, connections, joints and terminals in electrical work. It can also be used to repair the insulation on wires or to bundle them together, to protect wires or small parts from minor abrasion, and to create cable entry seals, offering environmental sealing protection. Heat shrink tubing is ordinarily made of nylon or polyolefin, which shrinks radially (but not longitudinally) when heated, to between one-half and one-sixth of its diameter.

Berdasarkan laporan analisis pakar :

- (a) Sampel berupa satu tiub berwarna hitam dengan panjang 75mm, diameter 23mm dan tebal 1.1mm.
- (b) Setelah dianalisis, sampel didapati terdiri kebanyakannya daripada **polyethylene**.

Barangan adalah sejenis *polyethylene tubing* dalam bentuk bulat, bersifat *non-rigid tubes* dan berongga di mana terdapat bukaan di kedua-dua hujungnya (*open at both ends*).

Barangan yang dikemukakan *not reinforced or otherwise combined with other materials, without fittings and not further worked than merely surface worked*.

Fungsi barangan adalah digunakan sebagai pelindung atau lapisan penebat ke atas pelbagai substrat seperti paip, hos, konduktor elektrik dan kumpulan wayar atau kabel yang bervoltan rendah dan sederhana.

**Ketetapan:**

Ketua Pengarah Kastam Malaysia memutuskan barangan ini sesuai diperjeniskan di bawah kod tarif **3917.32 920 (PDK 2012)** dan **3917.32.93 00 (PDK 2017)** sebagai ***other tubes, not reinforced or otherwise combined with other materials, without fittings, of other addition polymerization products*** berdasarkan alasan-alasan berikut :

- Barangan adalah sejenis *tubes of polyethylene* dan merupakan sejenis *hollow products* yang berbentuk bulat, di mana terdapat bukaan di kedua-dua hujungnya (*open at both ends*) dan bersifat *non-rigid tubes*.
- Analisis pakar mengesahkan bahawa barangan adalah tiub plastik terdiri daripada ***Polyethylene***.
- *Polyethylene* merupakan sejenis *addition polymerization product* berdasarkan rujukan buku *Shreve's Chemical Process Industries 5th Edition* di muka surat 635.
- Barangan yang dikemukakan *not reinforced or otherwise combined with other materials, without fittings and not further worked than merely surface worked*.
- Fungsi barangan adalah digunakan sebagai pelindung atau lapisan penebat ke atas pelbagai substrat seperti paip, hos, konduktor elektrik dan kumpulan wayar atau kabel yang bervoltan rendah dan sederhana.
- Barangan mendapat liputan di bawah *Chapter 39* dan memenuhi maksud *tubes* berdasarkan keterangan dalam *Note 8* kepada *Chapter 39* EN HS 2012 muka surat VII-39-3 iaitu :

**Chapter 39**  
**Plastics and articles thereof**

**Chapter Notes**

- (1) .....
- (8) *For the purposes of heading 39.17, the expression "**tubes, pipes and hoses**" means hollow products, whether semi-manufactures or finished products, of a kind generally used for conveying, conducting or distributing gases or liquids (for example, ribbed garden hose, perforated tubes). This expression also includes sausage casings and other lay-flat tubing. However, except for the last-mentioned, those having an internal cross-section other than round, oval, rectangular (in which the length does not exceed 1.5 times the width) or in the shape of a regular polygon are not to be regarded as tubes, pipes and hoses but as profile shapes.*

- Barangan sesuai diperjeniskan di bawah *heading* 39.17 dan menepati keterangan dalam EN HS 2012 *Chapter* 39 di muka surat VII-3917-1 seperti berikut :

- 39.17 - Tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics.**
- 3917.10 - Artificial guts (sausage casings) of hardened protein or of cellulosic materials:  
 - Tubes, pipes and hoses, rigid:
- 3917.21 - - Of polymers of ethylene  
 3917.22 - - Of polymers of propylene  
 3917.22 - - Of polymers of vinyl chloride  
 3917.29 - - Of other plastics:  
**- Other tubes, pipes and hoses:**
- 3917.31 - - Flexible tubes, pipes and hoses, having a minimum burst pressure of 27.6 MPa
- 3917.32 - - Other, not reinforced or otherwise combined with other materials, without fittings**
- 3917.33 - - Other, not reinforced or otherwise combined with other materials, with fittings
- 3917.39 - - Other  
 3917.40 - Fittings

According to Note 8 to the Chapter, the expression " tubes, pipes and hoses " means :

- (a) **hollow products**, whether semi-manufactures or finished products, of a kind generally used for conveying, conducting or distributing gases or liquids (for example, ribbed garden hose, perforated tubes), **provided that they have an internal cross-section which is round**, oval, rectangular (in which the length does not exceed 1.5 times the width) or in the shape of a regular polygon; and
- (b) sausage casings (whether or not tied or otherwise further worked) and other lay-flat tubing. This heading also includes fittings of plastics for tubes, pipes and hoses (for example, joints, elbows, flanges).

**Tubes, pipes and hoses and fittings therefor may be rigid or flexible and may be reinforced or otherwise combined with other materials.** (For the classification of tubes, pipes, etc., of plastics combined with other materials, see the General Explanatory Note to this Chapter.)

- Berdasarkan struktur tarif dalam Perintah Duti Kastam 2012, barangan sesuai diperjeniskan secara spesifik di bawah kod tarif **3917.32 920** sebagaimana berikut :

- |         |     |   |
|---------|-----|---|
| 39.17   |     | <b>Tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics.</b>               |
| 3917.10 |     | - Artificial guts (sausage casings) of hardened protein or of cellulosic materials:<br>- Tubes, pipes and hoses, rigid: |
| 3917.21 | 000 | - - Of polymers of ethylene   |
| 3917.22 | 000 | - - Of polymers of propylene  |
| 3917.23 | 000 | - - Of polymers of vinyl chloride   |
| 3917.29 |     | - - Of other plastics:<br>.....<br><b>- Other tubes, pipes and hoses</b>  |

3917.31	- - Flexible tubes, pipes and hoses, having a minimum burst pressure of 27.6 MPa
<b>3917.32</b>	- - Other, not reinforced or otherwise combined with other materials, without fittings
600	- - - Further worked than merely surface worked
	- - - Other:
<b>920</b>	- - - - Of other addition polymerization products
3917.33	- - Other, not reinforced or otherwise combined with other materials, with fittings
3917.39	- - Other
3917.40	- Fittings

- Barangan tidak sesuai diperjeniskan di bawah heading 8547 kerana barangan tidak menepati keterangan dalam EN HS 2012 Chapter 85 di muka surat XVI-8547-1 dan XVI-8547-2 seperti berikut :

85.47— *Insulating fittings for electrical machines, appliances or equipment, being fittings wholly or insulating material apart from any minor components of metal (for example, threaded sockets) incorporated during moulding solely for purposes of assembly, other than insulators of heading 85.46; electrical conduit tubing and joints therefor, of base metal lined with insulating material.*

8547.10 - *Insulating fittings of ceramics*

8547.20 - *Insulating fittings of plastics*

8547.90 - *Other*

**(A) INSULATING FITTINGS FOR ELECTRICAL MACHINES, APPLIANCES OR EQUIPMENT, BEING FITTINGS WHOLLY OF INSULATING MATERIAL APART FROM ANY MINOR COMPONENTS OF METAL (FOR EXAMPLE, THREADED SOCKETS) INCORPORATED DURING MOULDING SOLELY FOR PURPOSES OF ASSEMBLY, OTHER THAN INSULATORS OF HEADING 85.46**

*With the exception of insulators as such (heading 85.46), this group covers all fittings for electrical machinery, appliances or apparatus, provided:*

*(i) They are wholly of insulating material, or are wholly of insulating material (e.g., plastics) apart from any minor components of metal (screws, threaded sockets, sleeves, etc.) incorporated during moulding solely for purposes of assembly.*

*and (ii) They are designed for insulating purposes even though at the same time they have other functions (e.g., protection).*

*In general the fittings of this group are obtained by moulding or casting, or by sawing, cutting or otherwise working the raw material. They may be drilled, threaded, filed, grooved, etc.*

*They may be made of any insulating material (e., glass, ceramics, steatite, hardened rubbers, plastics, resin impregnated paper or paperboard, asbestos-cement or mica).*

*These fittings may be in various forms. This group includes, inter alia, covers, bases and other parts of switches, circuit breakers, etc.; bases and supports for fuses; rings and other parts for lamp-holders; formers for resistors or coils; connection strips and dominoes not fitted with their terminals; cores for bobbins and windings of various kinds; sparking plug bodies.*

*The heading does not cover fittings which, even though made wholly of insulating material (or made wholly of insulating material apart from any minor components of metal incorporated during moulding solely for the purposes of assembly), have not been specially constructed for insulating purposes, such as containers, covers and separator plates for accumulators (heading 85.07).*

**(B) ELECTRICAL CONDUIT TUBING AND JOINTS THEREFOR, OF BASE METAL LINED WITH INSULATING MATERIAL**

*This group covers the metal tubing used in permanent electrical installations (e.g., house wiring) as insulation and protection for the wires, provided it has an interior lining of insulating material. Uninsulated metal tubing, often used for the same purpose, is excluded (Section XV).*

*The tubing of this group consists either of spiraled metal strip wound on to an interior tube of insulating material, or of rigid metal tubing (usually iron or steel) coated or lined on the inside with insulating material. The insulating material may be special electrically insulating varnish, paper or paperboard, rubber, plastics, etc. Metal tubing simply coated with varnish to prevent corrosion is excluded (Section XV).*

*This group also covers joints used for connecting the tubing of this heading provided they are also of base metal and coated or lined with insulating material (e.g., straight joints, elbows, tee joints and cross-overs).*

*Joints such as tee joints, cross-overs, etc., fitted with terminals for electrical connections are excluded (heading 85.35 or 85.36).*

*The heading also excludes tubing wholly of insulating material (e.g., of rubber, plastics, braided textile yarns or glass fibre yarns); this is classified according to the constituent material, unless constituting an insulator of heading 85.46.*