# FITTINGS AND MULTILAYER PIPE

APE® RACCORDERIE

Heat Merchants

Site
**BRESCIA**

**1964**
**APE RACCORDERIE IS FOUNDED**
with the name "Minuterie Metalliche di Pe Angelo"

Commercial presence in over
**50**
**COUNTRIES**

APE® RACCORDERIE

Today, with
**52,000 m²**
it is one of the few manufacturing companies

on the national and international market for
**almost 60 years**

## MANUFACTURERS OF ENTIRE HEATING AND SANITARY SYSTEMS

- Fittings that can be tightened or crimped
- All products and systems are certified by major international bodies
- Multilayer pipe
- Distribution manifolds
- Floor, wall and ceiling radiant systems

**FITTINGS** **PIPES** **GAS** **THERM**

FITTINGS

# APL SERIES

Press fittings
for multilayer pipes

kiwa
BRL K536-E

Certificates valid for diameters Ø16- Ø20- Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø16- Ø20- Ø25- Ø32

APE RACCORDERIE

Heat Merchants

# APL SERIES

Press fittings for multilayer pipes


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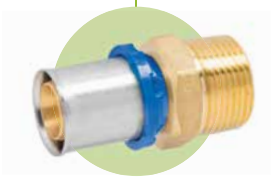
# APL SERIES

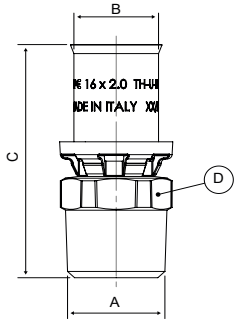
Press fittings for multilayer pipes

## MALE STRAIGHT
## ART. APL 10



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66777 | ARL1003100 | 1/2" x Ø16 (2.0) | 10 | 140 |
| U66778 | ARL1003200 | 1/2" x Ø20 (2.0) | 10 | 80 |
| UC9975 | ARL1004100 | 3/4" x Ø16 (2.0) | 10 | 100 |
| U66780 | ARL1004200 | 3/4" x Ø20 (2.0) | 10 | 80 |
| U73552 | ARL1004300 | 3/4" x Ø26 (3.0) | 5 | 60 |
| U73553 | ARL1010300 | 1" x Ø26 (3.0) | 5 | 50 |
| U23236 | ARL1010400 | 1" x Ø32 (3.0) | 5 | 40 |
| U44096 | ARL1011500 | 1"1/4 x Ø40 (3.5) | 1 | 25 |
| U44097 | ARL1012600 | 1"1/2 x Ø50 (4.0) | 1 | 15 |
| U44098 | ARL1020700 | 2" x Ø63 (4.5) | 1 | 8 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL1003100 | G 1/2" EN10226 | Ø16 (2.0) | 51,80 | CH 22 |
| ARL1003200 | G 1/2" EN10226 | Ø20 (2.0) | 51,70 | CH 22 |
| ARL1004100 | G 3/4" EN10226 | Ø16 (2.0) | 54,30 | CH 28 |
| ARL1004200 | G 3/4" EN10226 | Ø20 (2.0) | 54,20 | CH 28 |
| ARL1004300 | G 3/4" EN10226 | Ø26 (3.0) | 55 | CH 28 |
| ARL1010300 | G 1" EN10226 | Ø26 (3.0) | 58,80 | CH 34 |
| ARL1010400 | G 1" EN10226 | Ø32 (3.0) | 63,30 | CH 34 |
| ARL1011500 | G 1"1/4 EN10226 | Ø40 (3.5) | 65,70 | CH 45 |
| ARL1012600 | G 1"1/2 EN10226 | Ø50 (4.0) | 75,40 | CH 50 |
| ARL1020700 | G 2" EN10226 | Ø63 (4.5) | 83 | CH 62 |



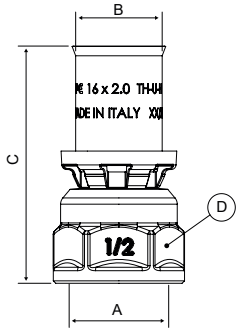
# APL SERIES

Press fittings for multilayer pipes

## FEMALE STRAIGHT
## ART. APL 11

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66781 | ARL1103100 | 1/2" x Ø16 (2.0) | 10 | 130 |
| U66782 | ARL1103200 | 1/2" x Ø20 (2.0) | 10 | 90 |
| U66783 | ARL1104200 | 3/4" x Ø20 (2.0) | 10 | 80 |
| U73554 | ARL1104300 | 3/4" x Ø26 (3.0) | 5 | 60 |
| U73555 | ARL1110300 | 1" x Ø26 (3.0) | 5 | 45 |
| U23241 | ARL1110400 | 1" x Ø32 (3.0) | 5 | 35 |
| U44099 | ARL1111500 | 1"1/4 x Ø40 (3.5) | 1 | 20 |
| U44100 | ARL1112600 | 1"1/2 x Ø50 (4.0) | 1 | 15 |
| U44101 | ARL1120700 | 2" x Ø63 (4.5) | 1 | 6 |

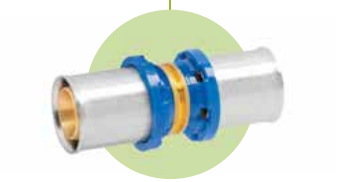
| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL1103100 | G 1/2" EN10226 | Ø16 (2.0) | 48,80 | CH 24 |
| ARL1103200 | G 1/2" EN10226 | Ø20 (2.0) | 48,70 | CH 24 |
| ARL1104200 | G 3/4" EN10226 | Ø20 (2.0) | 50 | CH 30 |
| ARL1104300 | G 3/4" EN10226 | Ø26 (3.0) | 50,80 | CH 30 |
| ARL1110300 | G 1" EN10226 | Ø26 (3.0) | 54,50 | CH 38 |
| ARL1110400 | G 1" EN10226 | Ø32 (3.0) | 59 | CH 38 |
| ARL1111500 | G 1"1/4 EN10226 | Ø40 (3.5) | 57,60 | CH 47 |
| ARL1112600 | G 1"1/2 EN10226 | Ø50 (4.0) | 67,30 | CH 53 |
| ARL1120700 | G 2" EN10226 | Ø63 (4.5) | 73,90 | CH 65 |



# APL SERIES

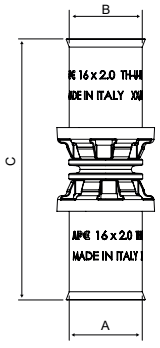
Press fittings for multilayer pipes

## STRAIGHT COUPLING
## ART. APL 12



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66784 | ARL1200110 | Ø16 (2.0) x Ø16 (2.0) | 10 | 100 |
| U66785 | ARL1200220 | Ø20 (2.0) x Ø20 (2.0) | 10 | 90 |
| U73556 | ARL1200330 | Ø26 (3.0) x Ø26 (3.0) | 5 | 50 |
| U23235 | ARL1200440 | Ø32 (3.0) x Ø32 (3.0) | 5 | 30 |
| U43258 | ARL1200550 | Ø40 (3.5) x Ø40 (3.5) | 1 | 20 |
| U43259 | ARL1200660 | Ø50 (4.0) x Ø50 (4.0) | 1 | 15 |
| U43260 | ARL1200770 | Ø63 (4.5) x Ø63 (4.5) | 1 | 8 |

| Code | A (mm) | B (mm) | C (mm) |
|---|---|---|---|
| ARL1200110 | Ø16 (2.0) | Ø16 (2.0) | 63,60 |
| ARL1200220 | Ø20 (2.0) | Ø20 (2.0) | 63,40 |
| ARL1200330 | Ø26 (3.0) | Ø26 (3.0) | 65 |
| ARL1200440 | Ø32 (3.0) | Ø32 (3.0) | 74 |
| ARL1200550 | Ø40 (3.5) | Ø40 (3.5) | 69,40 |
| ARL1200660 | Ø50 (4.0) | Ø50 (4.0) | 88,80 |
| ARL1200770 | Ø63 (4.5) | Ø63 (4.5) | 90 |



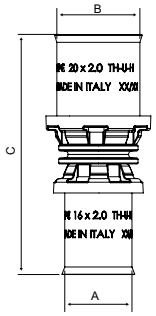
# APL SERIES

Press fittings for multilayer pipes

## MALE ELBOW
## ART. APL 13

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66786 | ARL1300210 | Ø16 (2.0) x Ø20 (2.0) | 10 | 90 |
| U44142 | ARL1300310 | Ø16 (2.0) x Ø26 (3.0) | 5 | 60 |
| UD4614 | ARL1300410 | Ø16 (2.0) x Ø32 (3.0) | 5 | 30 |
| U73557 | ARL1300320 | Ø20 (2.0) x Ø26 (3.0) | 5 | 60 |
| UD4615 | ARL1300420 | Ø20 (2.0) x Ø32 (3.0) | 5 | 30 |
| U27665 | ARL1300430 | Ø26 (3.0) x Ø32 (3.0) | 5 | 30 |
| UD4616 | ARL1300520 | Ø40 (3.5) x Ø20 (2.0) | 1 | 25 |
| U44148 | ARL1300530 | Ø40 (3.5) x Ø26 (3.0) | 1 | 25 |
| U44150 | ARL1300540 | Ø40 (3.5) x Ø32 (3.0) | 1 | 20 |
| UD4617 | ARL1300630 | Ø50 (4.0) x Ø26 (3.0) | 1 | 15 |
| U44152 | ARL1300640 | Ø50 (4.0) x Ø32 (3.0) | 1 | 15 |
| U44153 | ARL1300650 | Ø50 (4.0) x Ø40 (3.5) | 1 | 15 |
| U44155 | ARL1300750 | Ø63 (4.5) x Ø40 (3.5) | 1 | 10 |
| U44158 | ARL1300760 | Ø63 (4.5) x Ø50 (4.0) | 1 | 10 |

| Code | A (mm) | B (mm) | C (mm) |
|---|---|---|---|
| ARL1300210 | Ø16 (2.0) | Ø20 (2.0) | 63,50 |
| ARL1300310 | Ø16 (2.0) | Ø26 (3.0) | 64,30 |
| ARL1300410 | Ø16 (2.0) | Ø32 (3.0) | 68,80 |
| ARL1300320 | Ø20 (2.0) | Ø26 (3.0) | 64,20 |
| ARL1300420 | Ø20 (2.0) | Ø32 (3.0) | 68,70 |
| ARL1300430 | Ø26 (3.0) | Ø32 (3.0) | 69,50 |
| ARL1300520 | Ø40 (3.5) | Ø20 (2.0) | 66,90 |
| ARL1300530 | Ø40 (3.5) | Ø26 (3.0) | 67,70 |
| ARL1300540 | Ø40 (3.5) | Ø32 (3.0) | 72,20 |
| ARL1300630 | Ø50 (4.0) | Ø26 (3.0) | 77,40 |
| ARL1300640 | Ø50 (4.0) | Ø32 (3.0) | 81,90 |
| ARL1300650 | Ø50 (4.0) | Ø40 (3.5) | 79,10 |
| ARL1300750 | Ø63 (4.5) | Ø40 (3.5) | 79,70 |
| ARL1300760 | Ø63 (4.5) | Ø50 (4.0) | 90,40 |



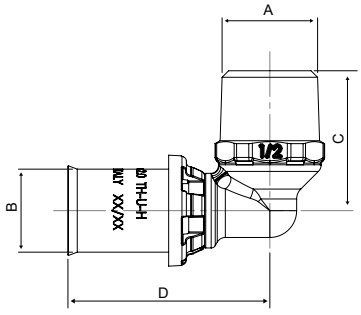
# APL SERIES

Press fittings for multilayer pipes

## MALE ELBOW
## ART. APL 30

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66803 | ARL3003100 | 1/2" x Ø16 (2.0) | 10 | 100 |
| U66804 | ARL3003200 | 1/2" x Ø20 (2.0) | 10 | 80 |
| U43646 | ARL3004200 | 3/4" x Ø20 (2.0) | 10 | 60 |
| U73571 | ARL3004300 | 3/4" x Ø26 (3.0) | 5 | 40 |
| U44182 | ARL3010300 | 1" x Ø26 (3.0) | 5 | 40 |
| U23242 | ARL3010400 | 1" x Ø32 (3.0) | 5 | 30 |
| U44183 | ARL3011500 | 1"1/4 x Ø40 (3.5) | 1 | 15 |
| U44184 | ARL3012600 | 1"1/2 x Ø50 (4.0) | 1 | 10 |
| U44185 | ARL3020700 | 2" x Ø63 (4.5) | 1 | 5 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL30031 00 | G 1/2" EN10226 | Ø16 (2.0) | 30 | 43,30 |
| ARL3003200 | G 1/2" EN10226 | Ø20 (2.0) | 32 | 44,20 |
| ARL3004200 | G 3/4" EN10226 | Ø20 (2.0) | 38 | 45,20 |
| ARL3004300 | G 3/4" EN10226 | Ø26 (3.0) | 40 | 48 |
| ARL3010300 | G 1" EN10226 | Ø26 (3.0) | 46 | 50,50 |
| ARL3010400 | G 1" EN10226 | Ø32 (3.0) | 46 | 56 |
| ARL3011500 | G 1"1/4 EN10226 | Ø40 (3.5) | 61,5 | 59,20 |
| ARL3012600 | G 1"1/2 EN10226 | Ø50 (4.0) | 67 | 73,90 |
| ARL3020700 | G 2" EN10226 | Ø63 (4.5) | 80 | 86 |



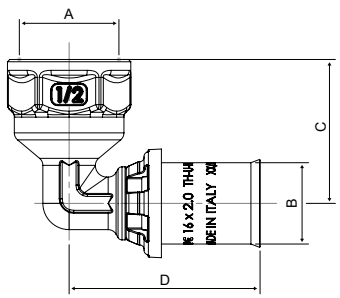
# APL SERIES

Press fittings for multilayer pipes

## FEMALE ELBOW
## ART. APL 31

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66801 | ARL3103100 | 1/2" x Ø16 (2.0) | 10 | 100 |
| U44186 | ARL3103200 | 1/2" x Ø20 (2.0) | 10 | 70 |
| U66802 | ARL3104200 | 3/4" x Ø20 (2.0) | 10 | 60 |
| U73570 | ARL3104300 | 3/4" x Ø26 (3.0) | 5 | 40 |
| U44187 | ARL3110300 | 1" x Ø26 (3.0) | 5 | 35 |
| U27664 | ARL3110400 | 1" x Ø32 (3.0) | 5 | 25 |
| UD4618 | ARL3111500 | 1"1/4 x Ø40 (3.5) | 1 | 12 |
| UD4619 | ARL3112600 | 1"1/2 x Ø50 (4.0) | 1 | 10 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL3103100 | G 1/2" EN10226 | Ø16 (2.0) | 31,50 | 41,80 |
| ARL3103200 | G 1/2" EN10226 | Ø20 (2.0) | 31,50 | 43,20 |
| ARL3104200 | G 3/4" EN10226 | Ø20 (2.0) | 35 | 44,70 |
| ARL3104300 | G 3/4" EN10226 | Ø26 (3.0) | 36,50 | 47 |
| ARL3110300 | G 1" EN10226 | Ø26 (3.0) | 43 | 49,50 |
| ARL3110400 | G 1" EN10226 | Ø32 (3.0) | 43 | 54,50 |
| ARL3111500 | G 1"1/4 EN10226 | Ø40 (3.5) | 54 | 59,20 |
| ARL3112600 | G 1"1/2 EN10226 | Ø50 (4.0) | 58 | 73,90 |



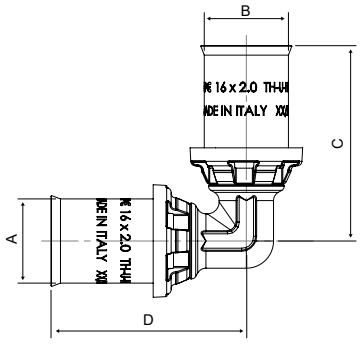
# APL SERIES

Press fittings for multilayer pipes

## 90° EQUAL ELBOW
## ART. APL 32

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66799 | ARL3200110 | Ø16 (2.0) x Ø16 (2.0) | 10 | 100 |
| U66800 | ARL3200220 | Ø20 (2.0) x Ø20 (2.0) | 10 | 60 |
| U73569 | ARL3200330 | Ø26 (3.0) x Ø26 (3.0) | 5 | 40 |
| U23237 | ARL3200440 | Ø32 (3.0) x Ø32 (3.0) | 5 | 25 |
| U43264 | ARL3200550 | Ø40 (3.5) x Ø40 (3.5) | 1 | 15 |
| U43265 | ARL3200660 | Ø50 (4.0) x Ø50 (4.0) | 1 | 8 |
| U43266 | ARL3200770 | Ø63 (4.5) x Ø63 (4.5) | 1 | 4 |

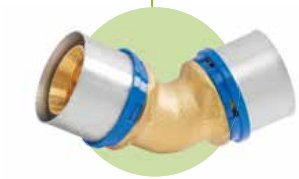
| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL3200110 | Ø16 (2.0) | Ø16 (2.0) | 41,30 | 41,30 |
| ARL3200220 | Ø20 (2.0) | Ø20 (2.0) | 43,20 | 43,20 |
| ARL3200330 | Ø26 (3.0) | Ø26 (3.0) | 47 | 47 |
| ARL3200440 | Ø32 (3.0) | Ø32 (3.0) | 54,50 | 54,50 |
| ARL3200550 | Ø40 (3.5) | Ø40 (3.5) | 59,20 | 59,20 |
| ARL3200660 | Ø50 (4.0) | Ø50 (4.0) | 73,90 | 73,90 |
| ARL3200770 | Ø63 (4.5) | Ø63 (4.5) | 86 | 86 |



# APL SERIES

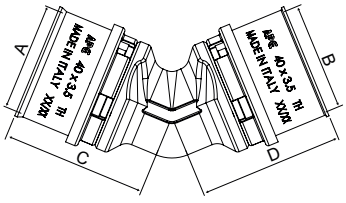
Press fittings for multilayer pipes

## 45° EQUAL ELBOW ART. APL 88

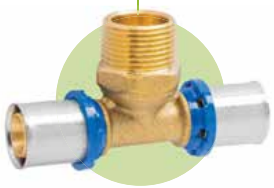


| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| UC7914 | ARL8800333 | Ø26 (3.0) x Ø26 (3.0) | 5 | 40 |
| UC7915 | ARL8800444 | Ø32 (3.0) x Ø32 (3.0) | 5 | 25 |
| U44188 | ARL8800555 | Ø40 (3.5) x Ø40 (3.5) | 1 | 12 |
| U44189 | ARL8800666 | Ø50 (4.0) x Ø50 (4.0) | 1 | 8 |
| U44190 | ARL8800777 | Ø63 (4.5) x Ø63 (4.5) | 1 | 4 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL8800333 | Ø26 (3.0) | Ø26 (3.0) | 46 | 46 |
| ARL8800444 | Ø32 (3.0) | Ø32 (3.0) | 51 | 51 |
| ARL8800555 | Ø40 (3.5) | Ø40 (3.5) | 54,20 | 54,20 |
| ARL8800666 | Ø50 (4.0) | Ø50 (4.0) | 70,40 | 70,40 |
| ARL8800777 | Ø63 (4.5) | Ø63 (4.5) | 75,50 | 75,50 |

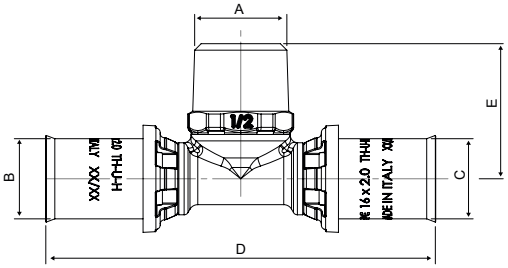



## MALE TEE ART. APL 20



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66796 | ARL2003101 | Ø16 (2.0) x 1/2" x Ø16 (2.0) | 10 | 50 |
| U66798 | ARL2004202 | Ø20 (2.0) x 3/4" x Ø20 (2.0) | 10 | 30 |
| U73568 | ARL2004303 | Ø26 (3.0) x 3/4" x Ø26 (3.0) | 5 | 30 |
| U44162 | ARL2010404 | Ø32 (3.0) x 1" x Ø32 (3.0) | 5 | 15 |

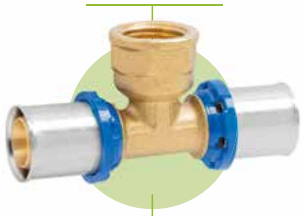
| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| ARL2003101 | G 1/2" EN10226 | Ø16 (2.0) | Ø16 (2.0) | 86,60 | 30 |
| ARL2004202 | G 3/4" EN10226 | Ø20 (2.0) | Ø20 (2.0) | 90,40 | 38 |
| ARL2004303 | G 3/4" EN10226 | Ø26 (3.0) | Ø26 (3.0) | 96 | 40 |
| ARL2010404 | G 1" EN10226 | Ø32 (3.0) | Ø32 (3.0) | 109 | 46 |



# APL SERIES

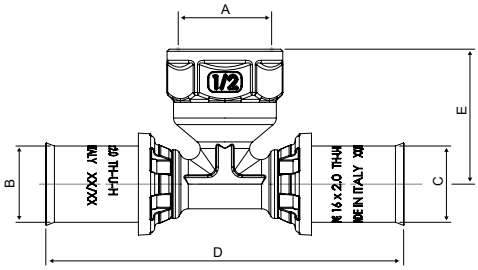
Press fittings for multilayer pipes

## FEMALE TEE
## ART. APL 21



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66793 | ARL2103101 | Ø16 (2.0) x 1/2" x Ø16 (2.0) | 10 | 60 |
| U66794 | ARL2103202 | Ø20 (2.0) x 1/2" x Ø20 (2.0) | 10 | 40 |
| U66795 | ARL2104202 | Ø20 (2.0) x 3/4" x Ø20 (2.0) | 10 | 40 |
| U73567 | ARL2104303 | Ø26 (3.0) x 3/4" x Ø26 (3.0) | 5 | 30 |
| UD4620 | ARL2104500 | Ø40 (3.5) x 3/4" x Ø40 (3.5) | 1 | 10 |
| UD4621 | ARL2104600 | Ø50 (4.0) x 3/4" x Ø50 (4.0) | 1 | 6 |
| U44163 | ARL2110404 | Ø32 (3.0) x 1" x Ø32 (3.0) | 5 | 15 |
| U44164 | ARL2110500 | Ø40 (3.5) x 1" x Ø40 (3.5) | 1 | 10 |
| U44166 | ARL2110600 | Ø50 (4.0) x 1" x Ø50 (4.0) | 1 | 6 |
| U44167 | ARL2110700 | Ø63 (4.5) x 1" x Ø63 (4.5) | 1 | 4 |
| U44168 | ARL2111500 | Ø40 (3.5) x 1" 1/4 x Ø40 (3.5) | 1 | 10 |
| U44169 | ARL2112600 | Ø50 (4.0) x 1"1/2 x Ø50 (4.0) | 1 | 6 |
| UD4622 | ARL2112700 | Ø63 (4.5) x 1"1/2 x Ø63 (4.5) | 1 | 3 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| ARL2103101 | G 1/2" EN10226 | Ø16 (2.0) | Ø16 (2.0) | 83,6 | 31,5 |
| ARL2103202 | G 1/2" EN10226 | Ø20 (2.0) | Ø20 (2.0) | 86,4 | 31,5 |
| ARL2104202 | G 3/4" EN10226 | Ø20 (2.0) | Ø20 (2.0) | 89,4 | 35 |
| ARL2104303 | G 3/4" EN10226 | Ø26 (3.0) | Ø26 (3.0) | 94 | 36,5 |
| ARL2104500 | G 3/4" EN10226 | Ø40 (3.5) | Ø40 (3.5) | 118,4 | 45 |
| ARL2104600 | G 3/4" EN10226 | Ø50 (4.0) | Ø50 (4.0) | 147,8 | 49 |
| ARL2110404 | G 1" EN10226 | Ø32 (3.0) | Ø32 (3.0) | 109 | 43 |
| ARL2110500 | G 1" EN10226 | Ø40 (3.5) | Ø40 (3.5) | 118,4 | 54 |
| ARL2110600 | G 1" EN10226 | Ø50 (4.0) | Ø50 (4.0) | 147,8 | 58 |
| ARL2110700 | G 1" EN10226 | Ø63 (4.5) | Ø63 (4.5) | 172 | 58 |
| ARL2111500 | G 1"1/4 EN10226 | Ø40 (3.5) | Ø40 (3.5) | 118,4 | 54 |
| ARL2112600 | Rp 1" 1/2 ISO7 | Ø50 (4.0) | Ø50 (4.0) | 147,8 | 58 |
| ARL2112700 | G 1"1/2 EN10226 | Ø63 (4.5) | Ø63 (4.5) | 172 | 62,5 |



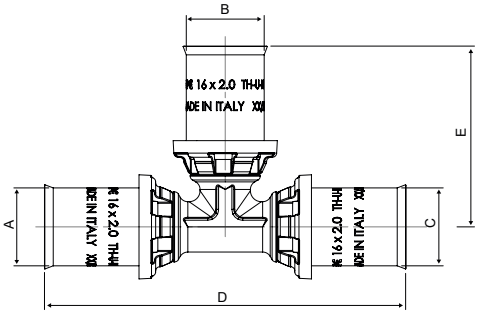
# APL SERIES

Press fittings for multilayer pipes

## EQUAL TEE
## ART. APL 22

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66791 | ARL2200111 | Ø16 (2.0) x Ø16 (2.0) x Ø16 (2.0) | 10 | 60 |
| U66792 | ARL2200222 | Ø20 (2.0) x Ø20 (2.0) x Ø20 (2.0) | 10 | 40 |
| U73566 | ARL2200333 | Ø26 (3.0) x Ø26 (3.0) x Ø26 (3.0) | 5 | 25 |
| U23238 | ARL2200444 | Ø32 (3.0) x Ø32 (3.0) x Ø32 (3.0) | 5 | 15 |
| U43261 | ARL2200555 | Ø40 (3.5) x Ø40 (3.5) x Ø40 (3.5) | 1 | 10 |
| U43262 | ARL2200666 | Ø50 (4.0) x Ø50 (4.0) x Ø50 (4.0) | 1 | 5 |
| U43263 | ARL2200777 | Ø63 (4.5) x Ø63 (4.5) x Ø63 (4.5) | 1 | 3 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| ARL2200111 | Ø16 (2.0) | Ø16 (2.0) | Ø16 (2.0) | 82,6 | 41,3 |
| ARL2200222 | Ø20 (2.0) | Ø20 (2.0) | Ø20 (2.0) | 86,4 | 43,2 |
| ARL2200333 | Ø26 (3.0) | Ø26 (3.0) | Ø26 (3.0) | 94 | 47 |
| ARL2200444 | Ø32 (3.0) | Ø32 (3.0) | Ø32 (3.0) | 108,88 | 54,5 |
| ARL2200555 | Ø40 (3.5) | Ø40 (3.5) | Ø40 (3.5) | 118,4 | 59,2 |
| ARL2200666 | Ø50 (4.0) | Ø50 (4.0) | Ø50 (4.0) | 147,8 | 73,9 |
| ARL2200777 | Ø63 (4.5) | Ø63 (4.5) | Ø63 (4.5) | 172 | 86 |

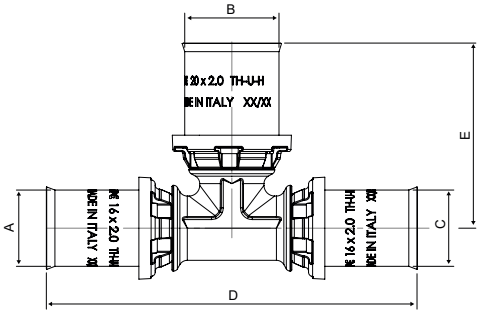


# APL SERIES

Press fittings for multilayer pipes

## REDUCING TEE
## ART. APL 24

| Code HM | Code APE | Size | Bag (nr) | Box (nr) | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|---|---|---|---|
| U66787 | ARL2400121 | Ø16 (2.0) x Ø20 (2.0) x Ø16 (2.0) | 10 | 40 | Ø16 (2.0) | Ø20 (2.0) | Ø16 (2.0) | 86,60 | 43,20 |
| U66788 | ARL2400211 | Ø20 (2.0) x Ø16 (2.0) x Ø16 (2.0) | 10 | 40 | Ø20 (2.0) | Ø16 (2.0) | Ø16 (2.0) | 86,40 | 43,30 |
| U66789 | ARL2400212 | Ø20 (2.0) x Ø16 (2.0) x Ø20 (2.0) | 10 | 40 | Ø20 (2.0) | Ø16 (2.0) | Ø20 (2.0) | 86,10 | 43,30 |
| U66790 | ARL2400221 | Ø20 (2.0) x Ø20 (2.0) x Ø16 (2.0) | 10 | 40 | Ø20 (2.0) | Ø20 (2.0) | Ø16 (2.0) | 86,50 | 43,20 |
| U84895 | ARL2400311 | Ø26 (3.0) x Ø16 (2.0) x Ø16 (2.0) | 5 | 25 | Ø26 (3.0) | Ø16 (2.0) | Ø16 (2.0) | 93,30 | 46,30 |
| U73560 | ARL2400313 | Ø26 (3.0) x Ø16 (2.0) x Ø26 (3.0) | 5 | 25 | Ø26 (3.0) | Ø16 (2.0) | Ø26 (3.0) | 94 | 46,30 |
| U73562 | ARL2400322 | Ø26 (3.0) x Ø20 (2.0) x Ø20 (2.0) | 5 | 25 | Ø26 (3.0) | Ø20 (2.0) | Ø20 (2.0) | 93,20 | 46,20 |
| U73563 | ARL2400323 | Ø26 (3.0) x Ø20 (2.0) x Ø26 (3.0) | 5 | 23 | Ø26 (3.0) | Ø20 (2.0) | Ø26 (3.0) | 94 | 46,20 |
| U73565 | ARL2400332 | Ø26 (3.0) x Ø26 (3.0) x Ø20 (2.0) | 5 | 23 | Ø26 (3.0) | Ø26 (3.0) | Ø20 (2.0) | 93,20 | 47 |
| UC7918 | ARL2400414 | Ø32 (3.0) x Ø16 (2.0) x Ø32 (3.0) | 5 | 15 | Ø32 (3.0) | Ø16 (2.0) | Ø32 (3.0) | 109 | 49,30 |
| U27666 | ARL2400424 | Ø32 (3.0) x Ø20 (2.0) x Ø32 (3.0) | 5 | 15 | Ø32 (3.0) | Ø20 (2.0) | Ø32 (3.0) | 109 | 49,20 |
| U44170 | ARL2400433 | Ø32 (3.0) x Ø26 (3.0) x Ø26 (3.0) | 5 | 15 | Ø32 (3.0) | Ø26 (3.0) | Ø26 (3.0) | 104,50 | 50 |
| U27667 | ARL2400434 | Ø32 (3.0) x Ø26 (3.0) x Ø32 (3.0) | 5 | 15 | Ø32 (3.0) | Ø26 (3.0) | Ø32 (3.0) | 109 | 50 |



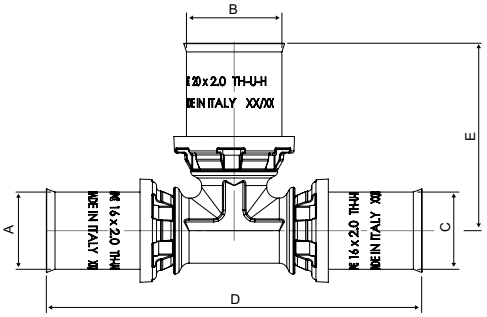
# APL SERIES

Press fittings for multilayer pipes

## REDUCING TEE
## ART. APL 24

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U44171 | ARL2400443 | Ø32 (3.0) x Ø32 (3.0) x Ø26 (3.0) | 5 | 15 |
| U44172 | ARL2400525 | Ø40 (3.5) x Ø20 (2.0) x Ø40 (3.5) | 1 | 10 |
| U44173 | ARL2400535 | Ø40 (3.5) x Ø26 (3.0) x Ø40 (3.5) | 1 | 10 |
| U44174 | ARL2400545 | Ø40 (3.5) x Ø32 (3.0) x Ø40 (3.5) | 2 | 10 |
| U44175 | ARL2400626 | Ø50 (4.0) x Ø20 (2.0) x Ø50 (4.0) | 1 | 6 |
| U44176 | ARL2400636 | Ø50 (4.0) x Ø26 (3.0) x Ø50 (4.0) | 1 | 5 |
| U44177 | ARL2400646 | Ø50 (4.0) x Ø32 (3.0) x Ø50 (4.0) | 2 | 5 |
| U44178 | ARL2400656 | Ø50 (4.0) x Ø40 (3.5) x Ø50 (4.0) | 2 | 5 |
| UD4623 | ARL2400737 | Ø63 (4.5) x Ø26 (3.0) x Ø63 (4.5) | 1 | 3 |
| UD4624 | ARL2400747 | Ø63 (4.5) x Ø32 (3.0) x Ø63 (4.5) | 1 | 3 |
| U44179 | ARL2400757 | Ø63 (4.5) x Ø40 (3.5) x Ø63 (4.5) | 1 | 3 |
| U44180 | ARL2400767 | Ø63 (4.5) x Ø50 (4.0) x Ø63 (4.5) | 1 | 3 |

| A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|
| Ø32 (3.0) | Ø32 (3.0) | Ø26 (3.0) | 104,50 | 54,50 |
| Ø40 (3.5) | Ø20 (2.0) | Ø40 (3.5) | 118,40 | 56,70 |
| Ø40 (3.5) | Ø26 (3.0) | Ø40 (3.5) | 118,40 | 57,50 |
| Ø40 (3.5) | Ø32 (3.0) | Ø40 (3.5) | 118,40 | 62 |
| Ø50 (4.0) | Ø20 (2.0) | Ø50 (4.0) | 147,80 | 61,70 |
| Ø50 (4.0) | Ø26 (3.0) | Ø50 (4.0) | 147,80 | 62,50 |
| Ø50 (4.0) | Ø32 (3.0) | Ø50 (4.0) | 147,80 | 67 |
| Ø50 (4.0) | Ø40 (3.5) | Ø50 (4.0) | 147,80 | 64,20 |
| Ø63 (4.5) | Ø26 (3.0) | Ø63 (4.5) | 172 | 74 |
| Ø63 (4.5) | Ø32 (3.0) | Ø63 (4.5) | 172 | 75,70 |
| Ø63 (4.5) | Ø40 (3.5) | Ø63 (4.5) | 172 | 75,70 |
| Ø63 (4.5) | Ø50 (4.0) | Ø63 (4.5) | 172 | 87,40 |



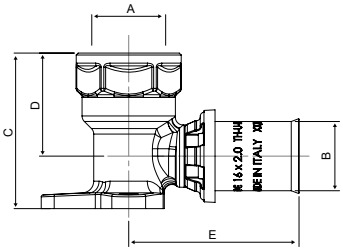
# APL SERIES

Press fittings for multilayer pipes

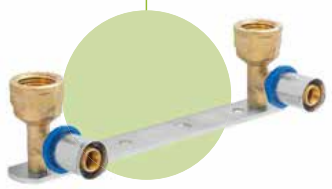
## FEMALE ELBOW WITH FLANGE ART. APL 35

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **U15811** | ARL3503100 | 1/2" x Ø16 (2.0) | 5 | 50 |
| **U47132** | ARL3503200 | 1/2" x Ø20 (2.0) | 5 | 40 |
| **UD4625** | ARL3504200 | 3/4" x Ø20 (2.0) | 5 | 40 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| ARL3503100 | G 1/2" EN10226 | Ø16 (2.0) | 40 | 26,5 | 43,80 |
| ARL3503200 | G 1/2" EN10226 | Ø20 (2.0) | 42 | 26,5 | 45,20 |
| ARL3504200 | G 3/4" EN10226 | Ø20 (2.0) | 45 | 29,5 | 48,20 |

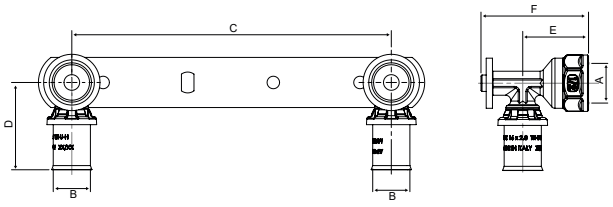



## PLATE WITH TWO FEMALE ELBOWS ART. APL 38



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **U66807** | ARL3803100 | 1/2" x Ø16 (2.0) | 2 | 10 |
| **UD4626** | ARL3803200 | 1/2" x Ø20 (2.0) | 2 | |

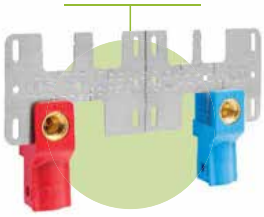
| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) |
|---|---|---|---|---|---|---|
| ARL3803100 | G 1/2" EN10226 | Ø16 (2.0) | 153 | 41,8 | 31,5 | 51,5 |
| ARL3803200 | G 1/2" EN10226 | Ø20 (2.0) | 153 | 43,70 | 32,50 | 54,50 |



# APL SERIES

Press fittings for multilayer pipes

## WALL BOX SET ART. APL 36



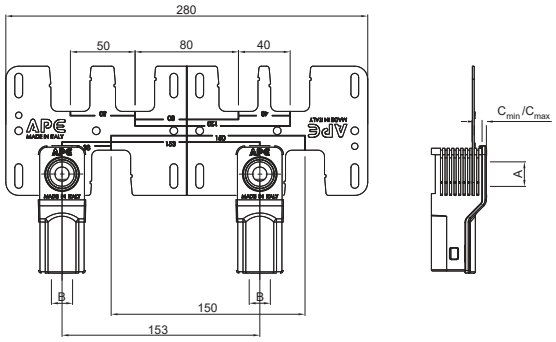
| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **UC4595** | ARL3603100 | 1/2" x Ø16 (2.0) | 1 | 2 |

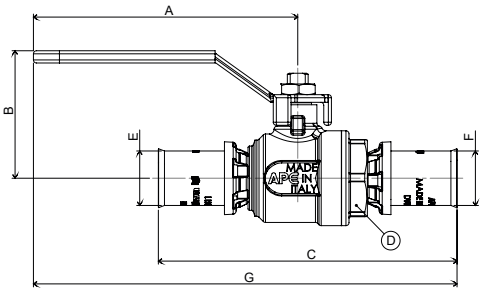
| Code | A (mm) | B (mm) | $C_{min}$ (mm) | $C_{max}$ (mm) |
|---|---|---|---|---|
| ARL3603100 | 1/2" ISO 228 | Ø16 (2.0) | 6 | 34 |

## HANDLE BALL VALVE ART. APL 61L

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **U27656** | ARL6153110LB | Ø16 (2.0) x Ø16 (2.0) | 10 | 20 |
| **U27657** | ARL6153220LB | Ø20 (2.0) x Ø20 (2.0) | 10 | 20 |
| **U40155** | ARL6153330LB | Ø26 (3.0) x Ø26 (3.0) | 5 | 15 |
| **U40156** | ARL6153440LB | Ø32 (3.0) x Ø32 (3.0) | 5 | 10 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) |
|---|---|---|---|---|---|---|---|
| ARL6153110LB | 86,40 | 41,70 | 97,60 | CH 28 | Ø16 (2.0) | Ø16 (2.0) | 138,40 |
| ARL6153220LB | 86,40 | 41,70 | 97,40 | CH 28 | Ø20 (2.0) | Ø20 (2.0) | 138,30 |
| ARL6153330LB | 113,36 | 52,40 | 104 | CH 31 | Ø26 (3.0) | Ø26 (3.0) | 169,74 |
| ARL6153440LB | 113,36 | 52,40 | 111 | CH 31 | Ø32 (3.0) | Ø32 (3.0) | 174,23 |



# APL SERIES

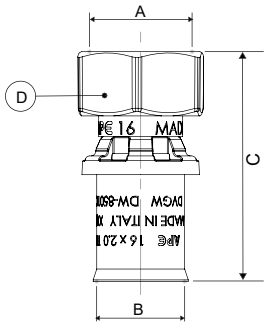
Press fittings for multilayer pipes

## STRAIGHT FITTING WITH ROTATING NUT
## ART. APL 70

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **U66806** | ARL7053100 | 1/2" x Ø16 (2.0) | 10 | 100 |
| **UB9937** | ARL7053200 | 1/2" x Ø20 (2.0) | 5 | 70 |
| **UB9938** | ARL7054100 | 3/4" x Ø16 (2.0) | 10 | 100 |
| **UB9939** | ARL7054200 | 3/4" x Ø20 (2.0) | 5 | 60 |
| **UD4627** | ARL7054300 | 3/4" x Ø26 (3.0) | 5 | 60 |
| **UD4628** | ARL7060300 | 1" x Ø26 (3.0) | 5 | 50 |
| **UD4629** | ARL7060400 | 1" x Ø32 (3.0) | 5 | 40 |
| **UD4630** | ARL7061500 | 1"1/4 x Ø40 (3.5) | 1 | 20 |
| **UD4631** | ARL7062500 | 1"1/2 x Ø40 (3.5) | 1 | 20 |
| **UD4632** | ARL7062600 | 1"1/2 x Ø50 (4.0) | 1 | 15 |
| **UD4633** | ARL7070600 | 2" x Ø50 (4.0) | 1 | 12 |
| **UD4634** | ARL7070700 | 2" x Ø63 (4.5) | 1 | 10 |

Complete with asbestos free gasket

| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL7053100 | G 1/2" ISO 228 | Ø16 (2.0) | 46,50 | CH 25 |
| ARL7053200 | G 1/2" ISO 228 | Ø20 (2.0) | 54,44 | CH 25 |
| ARL7054100 | G 3/4" ISO 228 | Ø16 (2.0) | 46,50 | CH 30 |
| ARL7054200 | G 3/4" ISO 228 | Ø20 (2.0) | 46,40 | CH 30 |
| ARL7054300 | G 3/4" ISO 228 | Ø26 (3.0) | 56,06 | CH 30 |
| ARL7060300 | G 1" ISO 228 | Ø26 (3.0) | 54,70 | CH 37 |
| ARL7060400 | G 1" ISO 228 | Ø32 (3.0) | 62,84 | CH 37 |
| ARL7061500 | G 1"1/4 ISO 228 | Ø40 (3.5) | 65,85 | CH 46 |
| ARL7062500 | G 1"1/2 ISO 228 | Ø40 (3.5) | 59,70 | CH 51 |
| ARL7062600 | G 1"1/2 ISO 228 | Ø50 (4.0) | 77,48 | CH 51 |
| ARL7070600 | G 2" ISO 228 | Ø50 (4.0) | 79,40 | CH 65 |
| ARL7070700 | G 2" ISO 228 | Ø63 (4.5) | 87,10 | CH 65 |



# APL SERIES

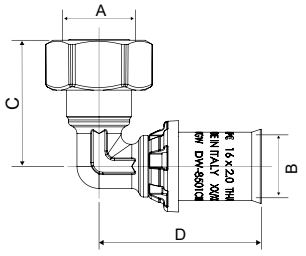
Press fittings for multilayer pipes

## ELBOW FITTING WITH ROTATING NUT
## ART. APL 72

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **UD4635** | ARL7253100 | 1/2" x Ø16 (2.0) | 10 | 80 |
| **UD4636** | ARL7253200 | 1/2" x Ø20 (2.0) | 10 | 80 |
| **UD4637** | ARL7254100 | 3/4" x Ø16 (2.0) | 10 | 70 |
| **UD4638** | ARL7254200 | 3/4" x Ø20 (2.0) | 10 | 70 |
| **UD4639** | ARL7254300 | 3/4" x Ø26 (3.0) | 5 | 40 |
| **UD4640** | ARL7260300 | 1" x Ø26 (3.0) | 5 | 35 |
| **UD4641** | ARL7260400 | 1" x Ø32 (3.0) | 5 | 25 |

Complete with asbestos free gasket

| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| ARL7253100 | G 1/2" ISO 228 | Ø16 (2.0) | 32,85 | 42,30 |
| ARL7253200 | G 1/2" ISO 228 | Ø20 (2.0) | 43,20 | 38,46 |
| ARL7254100 | G 3/4" ISO 228 | Ø16 (2.0) | 43,30 | 34,59 |
| ARL7254200 | G 3/4" ISO 228 | Ø20 (2.0) | 43,20 | 34,59 |
| ARL7254300 | G 3/4" ISO 228 | Ø26 (3.0) | 47,0 | 34,60 |
| ARL7260300 | G 1" ISO 228 | Ø26 (3.0) | 47,0 | 41,66 |
| ARL7260400 | G 1" ISO 228 | Ø32 (3.0) | 54,5 | 44,24 |



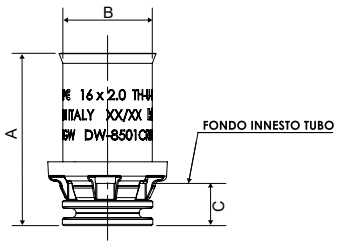
# APL SERIES

Press fittings for multilayer pipes

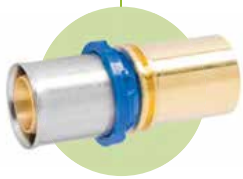
## PLUG TEST SYSTEM ART. APL 71

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **U22930** | ARL7100100 | Ø16 (2.0) | 10 | 200 |
| **U22931** | ARL7100200 | Ø20 (2.0) | 10 | 150 |
| **U22932** | ARL7100300 | Ø26 (3.0) | 5 | 60 |
| **U22933** | ARL7100400 | Ø32 (3.0) | 5 | 50 |

| Code | A (mm) | B (mm) | C (mm) |
|---|---|---|---|
| ARL7100100 | 34,30 | Ø16 (2.0) | 8,40 |
| ARL7100200 | 34,20 | Ø20 (2.0) | 8,40 |
| ARL7100300 | 35,00 | Ø26 (2.0) | 8,50 |
| ARL7100400 | 39,50 | Ø32 (2.0) | 8,50 |

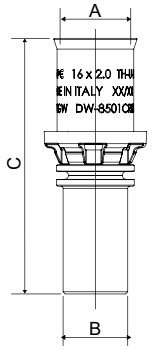



## STRAIGHT ADAPTER MULTILAYER PIPE/SOLDERING COPPER PIPE ART. APL 15



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **UB7424** | ARL1500912 | Ø16 (2.0) x Ø15 | 10 | 120 |
| **UB7425** | ARL1500913 | Ø20 (2.0) x Ø15 | 10 | 100 |
| **UB7426** | ARL1500914 | Ø20 (2.0) x Ø22 | 10 | 100 |
| **UB7427** | ARL1500915 | Ø26 (3.0) x Ø22 | 5 | 50 |
| **UB7428** | ARL1500916 | Ø26 (3.0) x Ø28 | 5 | 50 |
| **UB7429** | ARL1500917 | Ø32 (3.0) x Ø28 | 5 | 30 |

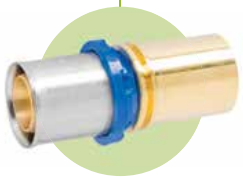
| Code | A (mm) | B (mm) | C (mm) |
|---|---|---|---|
| ARL1500912 | Ø16 (2.0) | Ø15 | 59,30 |
| ARL1500913 | Ø20 (2.0) | Ø15 | 59,20 |
| ARL1500914 | Ø20 (2.0) | Ø22 | 65,20 |
| ARL1500915 | Ø26 (3.0) | Ø22 | 66 |
| ARL1500916 | Ø26 (3.0) | Ø28 | 66 |
| ARL1500917 | Ø32 (3.0) | Ø28 | 79,50 |



# APL SERIES

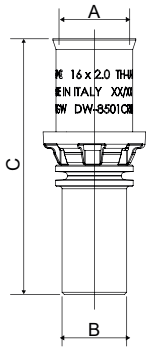
Press fittings for multilayer pipes

## STRAIGHT ADAPTER MULTILAYER PIPE/SOLDERING COPPER PIPE ART. ARI 15



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U95915 | ARI1500912 | Ø16 (2.0) x Ø15 | 10 | 120 |
| U95916 | ARI1500913 | Ø20 (2.0) x Ø15 | 10 | 100 |
| U95917 | ARI1500914 | Ø20 (2.0) x Ø22 | 10 | 100 |
| U95918 | ARI1500915 | Ø26 (3.0) x Ø22 | 5 | 50 |
| U95919 | ARI1500916 | Ø26 (3.0) x Ø28 | 5 | 50 |
| U95920 | ARI1500917 | Ø32 (3.0) x Ø28 | 5 | 30 |

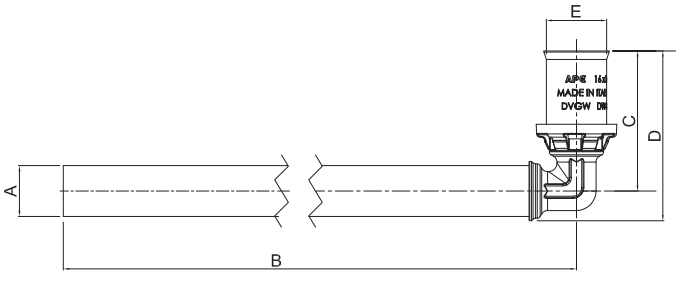
| Code | A (mm) | B (mm) | C (mm) |
|---|---|---|---|
| ARI1500912 | Ø16 (2.0) | Ø14,7 | 59,30 |
| ARI1500913 | Ø20 (2.0) | Ø14,7 | 59,20 |
| ARI1500914 | Ø20 (2.0) | Ø21 | 65,20 |
| ARI1500915 | Ø26 (3.0) | Ø21 | 66 |
| ARI1500916 | Ø26 (3.0) | Ø27,4 | 66 |
| ARI1500917 | Ø32 (3.0) | Ø27,4 | 79,50 |




## ELBOW COPPER EXTENSION ART. APL 33

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U27655 | ARL3300001 | Ø16 (2.0) x Ø15 | 10 | 40 |

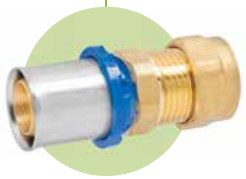
| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| ARL3300001 | Ø15 | 300 | 41,30 | 50,10 | Ø16 (2.0) |



# APL SERIES

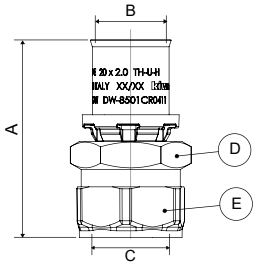
Press fittings for multilayer pipes

## STRAIGHT ADAPTER MULTILAYER PIPE/COMPRESSION COPPER PIPE ART. APL 14



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U27658 | ARL1453100 | Ø16 (2.0) x Ø15 | 10 | 100 |
| U27659 | ARL1453200 | Ø20 (2.0) x Ø15 | 10 | 60 |
| U27660 | ARL1490200 | Ø20 (2.0) x Ø22 | 10 | 50 |

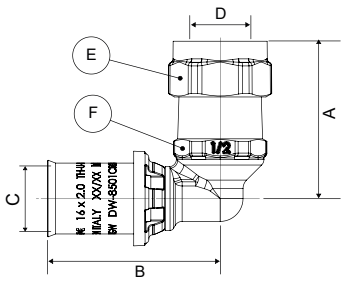
| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| ARL1453100 | 61,31 | Ø16 (2.0) | Ø15 | CH 22 | CH 24 |
| ARL1453200 | 61,21 | Ø20 (2.0) | Ø15 | CH 22 | CH 24 |
| ARL1490200 | 56,68 | Ø20 (2.0) | Ø22 | CH 30 | CH 30 |




## ELBOW ADAPTER MULTILAYER PIPE/COMPRESSION COPPER PIPE ART. APL 40

| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U27661 | ARL4053100 | Ø16 (2.0) x Ø15 | 10 | 80 |
| U27662 | ARL4053200 | Ø20 (2.0) x Ø15 | 10 | 60 |
| U27663 | ARL4090200 | Ø20 (2.0) x Ø22 | 10 | 50 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) |
|---|---|---|---|---|---|---|
| ARL4053100 | 39,51 | 43,30 | Ø16 (2.0) | Ø15 | CH 24 | CH 22 |
| ARL4053200 | 41,51 | 44,20 | Ø20 (2.0) | Ø15 | CH 24 | CH 22 |
| ARL4090200 | 40,98 | 44,60 | Ø20 (2.0) | Ø22 | CH 30 | – |

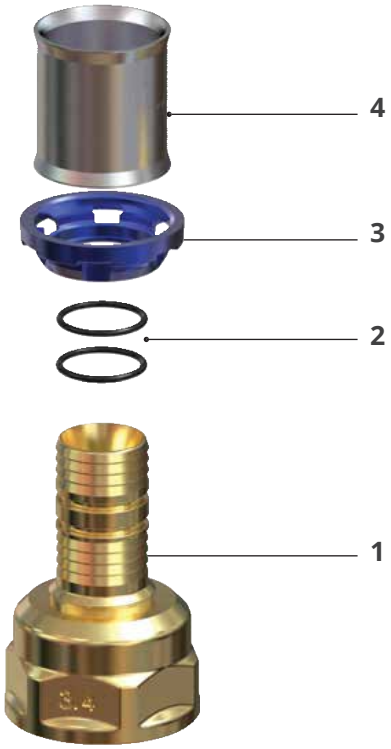


# TECHNICAL SPECIFICATIONS

## APL SERIES

## INTRODUCTION

The press fittings series APL, conforming to UNI EN ISO 21003-3, UNI EN 1254-3 and to Ministerial Decree 174, are designed and produced to increase their sealing characteristics and reduce installation times, thus assisting plumbers in system assembly.
Provided with double O-Ring seals and with a polyamide lock-ring supporting the pipe sleeve, these fitting are used in sanitary water and heating systems and are available in a range of types and sizes from Ø 16 mm to Ø 63 mm.
The APL press coupling system has been developed to reach the highest safety level during installation; fittings that are not tight will leak during pressure testing (at up to a test pressure of 6 bar) and can be immediately identified.
The seal between pipe and fitting is guaranteed by the profile of the press fitting and by the presence of two O-Rings [2] positioned in the fitting itself. Using a pressing unit with suitable jaws [see the notes below on pressing profiles] the fitting [4] is permanently deformed and the pressing force in turn deforms the multi-layer pipe onto the specific profile.




The lock-ring [3] has inspection slots that allow to check the correct coupling between pipe and fitting. The thickness of the lock-ring is such as to support high pressures even in the presence of large temperature changes. This ring is in steel type AISI 304 which has been subjected to a further solubilisation treatment for stress relief and to avoid uneven stress developing in time; this heat treatment cancels the stress memory of the material, avoiding any future cracks and leaks.
The presence of the ring [3] insulates the aluminum layer of the pipe from the brass body of the fittings, thus avoiding electro-chemical corrosion effects

| N. | Description | Materials and conformity |
|---|---|---|
| 1 | Body | Brass CW617N<br>Conforms to UNI EN 12164; UNI EN 12165; UNI EN 12168 |
| 2 | O-ring | Peroxide-cured EPDM 70 SCH<br>Conforms to EN 681.1 |
| 3 | Pipe lock-ring support | B2800 (polyamide) |
| 4 | Lock-ring sleeve | Steel AISI 304<br>Conforms to UNI EN 10088-2 |

Differing from fittings to be tightened, the coupling in press fittings has the special characteristic of being **immovable**: this means that the APL fitting, when compressed correctly, undergoes a permanent deformation that guarantees long-term sealing. For this reason, press fittings are the only type of coupling that can be used and guaranteed in embedded systems.

BRL K536-E

Certificates valid for diameters Ø16- Ø20- Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø26- Ø32

Certificate valid for diameters Ø16- Ø20- Ø25- Ø32

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **Field of application** | Heating and hot water systems |
| **Fluids carried** | Drinking water, water for technical purposes and water containing glycol |
| **Temperature range** | from 5 °C to 80 °C |
| **Operating pressure:** | max 10 bar |
| **Type of pipe:** | Multilayer PEXb/AL/PEXb (compliant with UNI 21003) |

** if operating temperatures below 5°C are required, use glycol in the percentages indicated by the supplier.*

The AP tube fitting system has been certified by the following bodies: **KIWA** K94485, **DVGW** DW-8501CR0411, **WRAS** 250304017, **ATG** 3212, **AFNOR** n° 101160 holder 045, **AENOR** 001/007418, **KOMO** K25301.

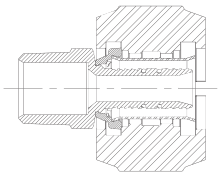
## PRESS PROFILES

AP series fittings can be installed using different press profiles (TH, H, and U). The use of tools with appropriate press profiles is fundamental to ensure perfect coupling between the pipe and the fitting, guaranteeing the best system performance.
The table below lists the crimping profiles to be used for the various diameters:

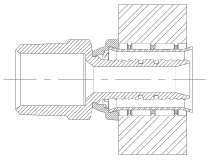
| Diameter | Crimping profile | | |
|---|---|---|---|
| Ø16 (2.0) | TH | H | U |
| Ø18 (2.0) | TH | H | U |
| Ø20 (2.0) | TH | H | U |
| Ø25 (2.0) | TH | H | |
| Ø26 (3.0) | TH | H | |
| Ø32 (3.0) | TH | H | |
| Ø40 (3.5) | TH | | |
| Ø50 (4.0) | TH | | |
| Ø63 (4.5) | TH | | |

The illustrations below show the correct position for the crimping tool in relation to the profile: crimping must take place at the correct position with respect to the O-rings, in order to ensure the fitting's tightness.

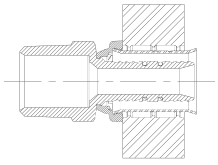
**TH: Ø16 – Ø18 – Ø20 – Ø25 – Ø26 – Ø32 – Ø40 – Ø50 – Ø63**



**H: Ø16 – Ø18 – Ø20 – Ø25 – Ø26 – Ø32**



**U: Ø16 – Ø18 – Ø20**



Before proceeding to crimp the fittings, always:

1. Ensure that you have chosen the correct crimping tool for the fitting. If the wrong tool, or a tool that does not correspond to the diameter of the pipe (e.g. use of Ø25 on sleeve Ø26) is used, the fitting will never provide a tight seal.
2. Ensure that the crimping tool profile is correct, referring to the table above.
3. Choose original profiles (e.g. REMS tool with KLAUKE jaws or vice-versa): profiles do not always work properly when not used with the original tool.
4. Ensure that the crimping tool profile is not damaged, that the tool is not faulty or worn and that the tool lever springs are not broken or faulty.
5. When using a battery operated crimping tool, check that the battery charge is sufficient for effective crimping.

# INSTALLATION INSTRUCTIONS

## APL SERIES

In order to achieve a perfect joint between the pipe and the fitting, we recommend that you carefully follow the following assembly instructions.

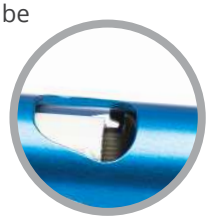
### CUT

Cut the pipe to the desired length using Ape's special pipe cutter. The cut must be perpendicular to the axis of the pipe.

1

### CALIBRATION AND COUNTERSINKING

This is the most important operation to be performed before inserting the hose barb into the pipe. Insert the pipe calibrator into the pipe and turn it several times until obtaining a perfectly rounded circle. In the meantime the calibrator countersinks the edge of the pipe reshaping it into a truncated cone as a result of the action of three cutters arranged at 120° at the base of the calibrator. Once the pipe is calibrated and flared remove the shavings that formed as a result of these operations. Before using the calibrators check that they are perfectly intact and functional.

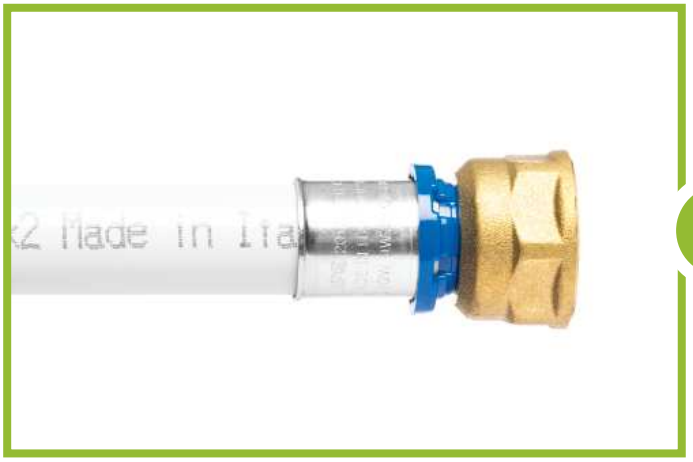


2

3

## LUBRICATION

Before inserting the pipe into the hose fitting, it is strictly necessary to lubricate the inner pipe edge by applying a special silicone-based solution. The lubricant has the dual function of facilitating the pipe insertion and preserving the O-rings over time, protecting them against cuts and/or removal which would compromise their sealing capacity.




4

## INSTALLATION

Insert the pipe into the fitting and, through the inspection holes, make sure that the pipe has been inserted fully.
This operation must be done with no effort, otherwise remove and check the fitting to verify the integrity of the O-rings.

5

## PRESSING

Once the pipe is inserted into the fitting the bush must be pressed using the special press equipped with the special jaw or inserts. Ape presses have an end stop which triggers the press to reopen when it is reached. At the end of the operation check that the imprint on the bush is uniform and that the margins of the jaw are aligned.

Note: Any press can be used provided that it is equipped with jaws that are consistent with the profile of the AP series parts (see table).

Warning: the pipe connected to the fitting must not be folded.

FITTINGS

# AP SERIES

Press fittings
for multilayer pipes

kiwa
BRL K536-E

WRAS
APPROVED PRODUCT

DVGW

DIN Geprüft

Certificates valid for diameters Ø16- Ø20- Ø26- Ø32

KOMO

Certificates valid for diameters Ø26- Ø32

APE RACCORDERIE

Heat Merchants

# AP SERIES

Press fittings for multilayer pipes


| | | |
|---|---|---|
| | MALE STRAIGHT ART. AP 101 | 30 |
| | MALE TEE ART. AP 133 | 30 |
| | REDUCING TEE ART. AP 131 | 31 |
| | ELBOW WITH FLANGE ART. AP 154 | 31 |
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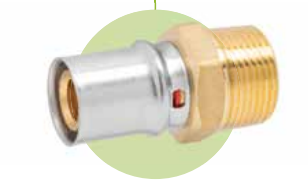
| | INSTALLATION INSTRUCTIONS | 34 |

# AP SERIES

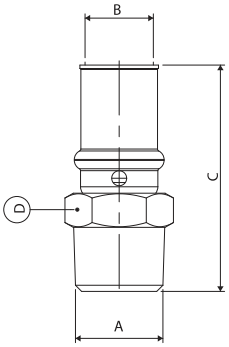
Press fittings for multilayer pipes

## MALE STRAIGHT
## ART. AP 101



| Code HM | Code APE | Size (mm) | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66779 | 3AP1013416 | 3/4" x Ø16 (2.0) | 10 | 100 |

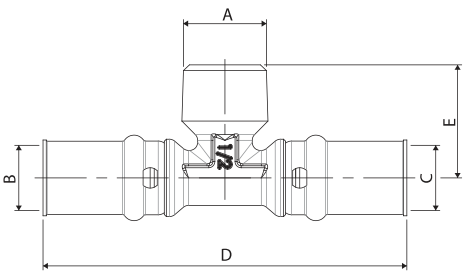
| Code | A (mm) | B (mm) | C (mm) | D (mm) |
|---|---|---|---|---|
| 3AP1013416 | R 3/4" ISO 7 | Ø16 (2.0) | 55 | CH 27 |




## MALE TEE
## ART. AP 133

| Code HM | Code APE | Size (mm) | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66797 | 3AP1331220 | Ø20 (2.0) x 1/2" x Ø20 (2.0) | 10 | 50 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| 3AP1331220 | R 1/2" ISO 7 | Ø20 (2.0) | Ø20 (2.0) | 99 | 27 |



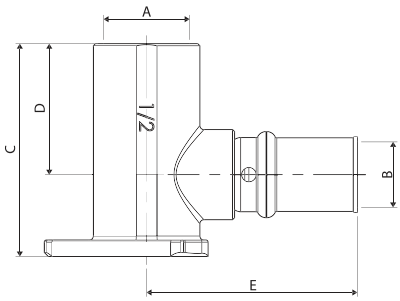
# AP SERIES

Press fittings for multilayer pipes

## ELBOW WITH FLANGE ART. AP 154

| Code HM | Code APE | Size (mm) | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U66805 | 3AP1541216 | 1/2" x Ø16 (2.0) | 5 | 40 |

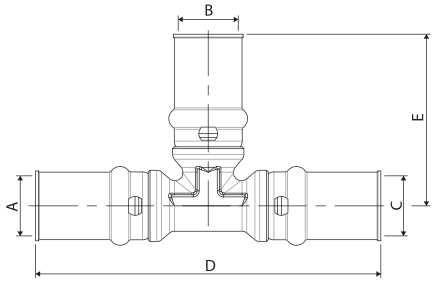
| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| 3AP1541216 | Rp 1/2" ISO 7 | Ø16 (2.0) | 52 | 32 | 51,50 |




## REDUCING TEE ART. AP 131

| Code HM | Code APE | Size (mm) | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| U73558 | 3APT202620 | Ø20 (2.0) x Ø26 (3.0) x Ø20 (2.0) | 5 | 25 |
| U73559 | 3APT261620 | Ø26 (3.0) x Ø16 (2.0) x Ø20 (2.0) | 5 | 30 |
| U73561 | 3APT262016 | Ø26 (3.0) x Ø20 (2.0) x Ø16 (2.0) | 5 | 30 |
| U73564 | 3APT262616 | Ø26 (3.0) x Ø26 (3.0) x Ø16 (2.0) | 5 | 25 |

| Code | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) |
|---|---|---|---|---|---|
| 3APT202620 | Ø20 (2.0) | Ø26 (3.0) | Ø20 (2.0) | 105 | 52,30 |
| 3APT261620 | Ø26 (3.0) | Ø16 (2.0) | Ø20 (2.0) | 104,80 | 52,50 |
| 3APT262016 | Ø26 (3.0) | Ø20 (2.0) | Ø16 (2.0) | 104,80 | 52,50 |
| 3APT262616 | Ø26 (3.0) | Ø26 (3.0) | Ø16 (2.0) | 104,80 | 52,30 |



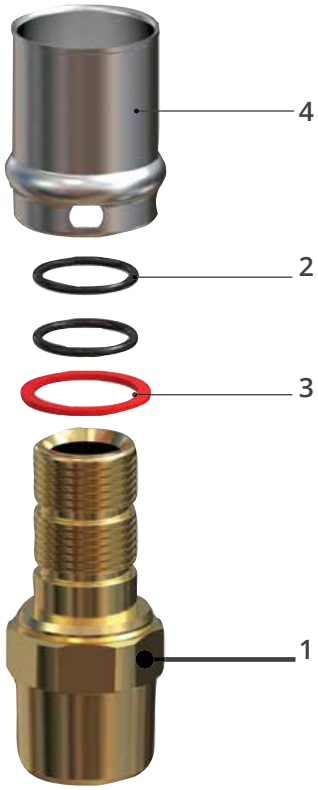
# TECHNICAL SPECIFICATIONS

## AP SERIES

## INTRODUCTION

AP series press fittings, manufactured in compliance with UNI EN ISO 21003-3, UNI EN 1254-3 and Italian Ministerial Decree 174, are designed and produced with the aim of increasing tightness and cutting assembly times to simplify procedures for the installer. With two O-rings for sealing and a PE washer to eliminate any stray currents, they are used in heating and hot water systems and are available in a wide range of shapes, with diameters from Ø16 to Ø32.

A tight seal between pipe and fitting is guaranteed by the profile of the hose barb and the two O-rings [2] fitted within it. A crimping tool fitted with special jaws [see the notes on the crimping profiles below] is used to deform the sleeve permanently [4], while the compression force used when crimping also deforms the multilayer pipe onto the special profile.




The sleeve [4] has Two (2) inspection holes used to check that the pipe-fitting coupling is correct and that the pipe has been inserted fully and is resting against the PE washer. The sleeve thickness is designed to withstand high pressures under considerable temperature variations. It is manufactured in AISI 304 steel, which undergoes an additional solubilisation process to relieve any residual stresses in the material and ensure uniform distribution of stresses over time. The solubilisation process is of fundamental importance because it clears the material's memory, eliminating the risk of failure and thus leakage of the fitting.
The PE washer [3] insulates the aluminium pipe from the brass fitting, preventing corrosion.

| N. | Description | Materials and conformity |
|---|---|---|
| 1 | Body | Ottone CW617N<br>Conforme norma UNI EN 12164:01; UNI EN12165:99; UNI EN 12168:01 |
| 2 | O-ring | EPDM perossidico 70 SCH<br>Conforme norma EN 681.1 |
| 3 | Washer | PE (Polietilene) |
| 4 | Sleeve | Acciaio AISI 304<br>Conforme norma UNI EN 10088-2 |

Unlike screw fittings, the press fitting couplings are solid: this means that, if correctly crimped, the AP fitting is permanently deformed, guaranteeing its tightness over time. For this reason, press fittings are the only system used and guaranteed in pipe systems sunk into walls or floors.

BRL K536-E

Certificates valid for diameters Ø16- Ø20- Ø26- Ø32

Certificates valid for diameters Ø26- Ø32

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **Field of application** | Heating and hot water systems |
| **Fluids carried** | Drinking water, water for technical purposes and water containing glycol |
| **Temperature range** | from 5 °C to 80 °C |
| **Operating pressure:** | max 10 bar |
| **Type of pipe:** | Multilayer PEXb/AL/PEXb (compliant with UNI 21003) |

** if operating temperatures below 5°C are required, use glycol in the percentages indicated by the supplier.*

The AP tube fitting system has been certified by the following bodies: **KIWA** K66358 , **DVGW** DW-8501CN0176 **WRAS** 250304017 and **KOMO** K25301.
The certified profile is the **TH**.

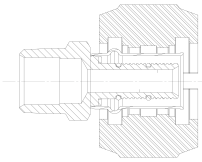
## PRESS PROFILES

AP series fittings can be installed using different press profiles (TH, H, B, and U). The use of tools with appropriate press profiles is fundamental to ensure perfect coupling between the pipe and the fitting, guaranteeing the best system performance.
The table below lists the crimping profiles to be used for the various diameters:

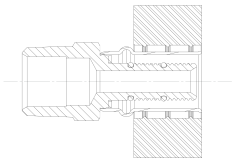
| Diameter | Crimping profile | | | |
|---|---|---|---|---|
| Ø16 (2.0) | TH | H | B | U |
| Ø18 (2.0) | TH | | | |
| Ø20 (2.0) | TH | H | B | U |
| Ø26 (3.0) | TH | H | B | |
| Ø32 (3.0) | TH | H | B | |

The illustrations below show the correct position for the crimping tool in relation to the profile: crimping must take place at the correct position with respect to the O-rings, in order to ensure the fitting's tightness.

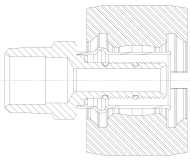
**TH: Ø16 – Ø18 – Ø20 – Ø26 – Ø32**



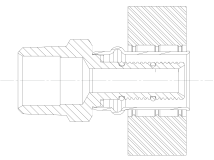
**H: Ø16 – Ø20 – Ø26 – Ø32**



**B: Ø16 – Ø20 – Ø26 – Ø32**



**U: Ø16 – Ø20**



Before proceeding to crimp the fittings, always:

1. Ensure that you have chosen the correct crimping tool for the fitting. If the wrong tool, or a tool that does not correspond to the diameter of the pipe (e.g. use of Ø25 on sleeve Ø26) is used, the fitting will never provide a tight seal.
2. Ensure that the crimping tool profile is correct, referring to the table above.
3. Choose original profiles (e.g. REMS tool with KLAUKE jaws or vice-versa): profiles do not always work properly when not used with the original tool.
4. Ensure that the crimping tool profile is not damaged, that the tool is not faulty or worn and that the tool lever springs are not broken or faulty.
5. When using a battery operated crimping tool, check that the battery charge is sufficient for effective crimping.

# INSTALLATION INSTRUCTIONS

## AP SERIES

In order to achieve a perfect joint between the pipe and the fitting, we recommend that you carefully follow the following assembly instructions.

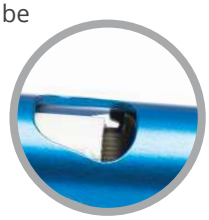
### CUT

Cut the pipe to the desired length using Ape's special pipe cutter. The cut must be perpendicular to the axis of the pipe.

1

### CALIBRATION AND COUNTERSINKING

This is the most important operation to be performed before inserting the hose barb into the pipe. Insert the pipe calibrator into the pipe and turn it several times until obtaining a perfectly rounded circle. In the meantime the calibrator countersinks the edge of the pipe reshaping it into a truncated cone as a result of the action of three cutters arranged at 120° at the base of the calibrator. Once the pipe is calibrated and flared remove the shavings that formed as a result of these operations. Before using the calibrators check that they are perfectly intact and functional.



2

3

## LUBRICATION

Before inserting the pipe into the hose fitting, it is strictly necessary to lubricate the inner pipe edge by applying a special silicone-based solution. The lubricant has the dual function of facilitating the pipe insertion and preserving the O-rings over time, protecting them against cuts and/or removal which would compromise their sealing capacity.

4

## INSTALLATION

Insert the pipe into the fitting and, through the inspection holes, make sure that the pipe has been inserted fully until it touches the Teflon washer. This operation must be done with no effort, otherwise remove and check the fitting to verify the integrity of the O-rings.

5

## PRESSING

Once the pipe is inserted into the fitting the bush must be pressed using the special press equipped with the special jaw or inserts. Ape presses have an end stop which triggers the press to reopen when it is reached. At the end of the operation check that the imprint on the bush is uniform and that the margins of the jaw are aligned.

Note: Any press can be used provided that it is equipped with jaws that are consistent with the profile of the AP series parts (see table).

Warning: the pipe connected to the fitting must not be folded.

FITTINGS

# MANIFOLD AND ADAPTORS

APE RACCORDERIE

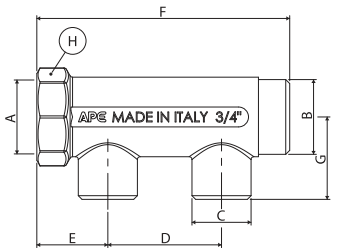
Heat Merchants

# MANIFOLD AND ADAPTORS


| | | |
|---|---|---|
| | 3/4” MF LINEAR MANIFOLD, 1/2” M OFFTAKES ART. 500 A | 38 |
| | 1” MF LINEAR MANIFOLD, 1/2” M OFFTAKES ART. 500 B | 38 |
| | 1/2” ADAPTOR FOR MULTILAYER PIPE ART. 781 L | 39 |

# MANIFOLD SERIES

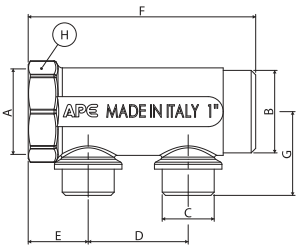
## 3/4" MF LINEAR MANIFOLD, 1/2" M OFFTAKES
## ART. 500 A




| Code HM | Code APE | Size | Way | Bag (nr) | Box (nr) |
|---|---|---|---|---|---|
| **U73573** | 35020034N | 3/4" x 1/2" | 2 | 10 | 20 |
| **U73574** | 35030034N | 3/4" x 1/2" | 3 | 10 | 20 |
| **U73575** | 35040034N | 3/4" x 1/2" | 4 | 5 | 10 |
| **U73576** | 35050034N | 3/4" x 1/2" | 5 | 5 | 10 |
| **U73577** | 35060034N | 3/4" x 1/2" | 6 | 5 | 10 |

| A (inch) | B (inch) | C (inch) | D (mm) | E (mm) | F (mm) | G (mm) | H (mm) |
|---|---|---|---|---|---|---|---|
| G3/4" ISO 228 | G3/4" ISO 228 | G1/2" ISO 228 | 40 | 25 | 89 | 29 | 32 |
| G3/4" ISO 228 | G3/4" ISO 228 | G1/2" ISO 228 | 40 | 25 | 129 | 29 | 32 |
| G3/4" ISO 228 | G3/4" ISO 228 | G1/2" ISO 228 | 40 | 25 | 169 | 29 | 32 |
| G3/4" ISO 228 | G3/4" ISO 228 | G1/2" ISO 228 | 40 | 25 | 209 | 29 | 32 |
| G3/4" ISO 228 | G3/4" ISO 228 | G1/2" ISO 228 | 40 | 25 | 249 | 29 | 32 |

## 1" MF LINEAR MANIFOLD, 1/2" M OFFTAKES
## ART. 500 B

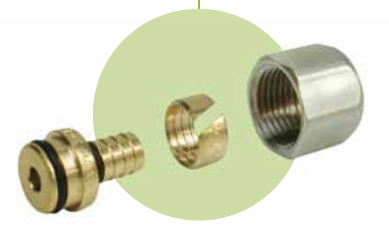



| Code HM | Code APE | Size | Way | Bag (nr) | Box (nr) |
|---|---|---|---|---|---|
| **U73578** | 35020001N | 1" x 1/2" | 2 | 10 | 20 |
| **U73579** | 35030001N | 1" x 1/2" | 3 | 10 | 20 |
| **U73580** | 35040001N | 1" x 1/2" | 4 | 5 | 15 |

| A (inch) | B (inch) | C (inch) | D (mm) | E (mm) | F (mm) | G (mm) | H (mm) |
|---|---|---|---|---|---|---|---|
| G1" ISO 228 | G1" ISO 228 | G1/2" ISO 228 | 40 | 24 | 91 | 33,50 | 38 |
| G1" ISO 228 | G1" ISO 228 | G1/2" ISO 228 | 40 | 24 | 131 | 33,50 | 38 |
| G1" ISO 228 | G1" ISO 228 | G1/2" ISO 228 | 40 | 24 | 171 | 31,50 | 38 |

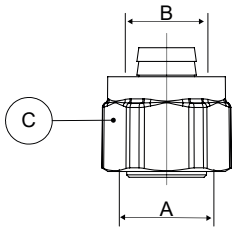
# MANIFOLD SERIES

## 1/2" ADAPTOR FOR MULTILAYER PIPE ART. 781 L



| Code HM | Code APE | Size | Bag (nr) | Box (nr) |
|---|---|---|---|---|
| **U18654** | 3781L01620 | 1/2 x Ø16 (2.0) | 10 | 150 |

| Code | A (mm) | B (mm) | C (mm) |
|---|---|---|---|
| 3781L01620 | G1/2" ISO 228 | Ø16 (2.0) | CH 24 |



PIPES

# PIPES

BRL K536-E

Certificates valid for diameters Ø16- Ø20- Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø16- Ø20- Ø26- Ø32

Certificate valid for diameters Ø16- Ø20- Ø25- Ø32

APE RACCORDERIE

Heat Merchants

# APE MULTILAYER PIPE


| | | |
|---|---|---|
| | MULTILAYER PLAIN PIPE PEXB/AL/PEXB | 42 |
| | MULTILAYER PIPE STRAIGHT LENGTH PEXB/AL/PEXB | 43 |
| | GRAY COATED MULTILAYER PIPE PEXB/AL/PEXB FOR HEATING AND DOMESTIC USE | 44 |
| | RED COATED MULTILAYER PIPE PEXB/AL/PEXB FOR HEATING AND PLUMBING | 44 |
| | BLUE COATED MULTILAYER PIPE PEXB/AL/PEXB FOR HEATING AND PLUMBING | 45 |
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| | TECHNICAL SPECIFICATIONS | 46 |

# APE MULTILAYER PIPE

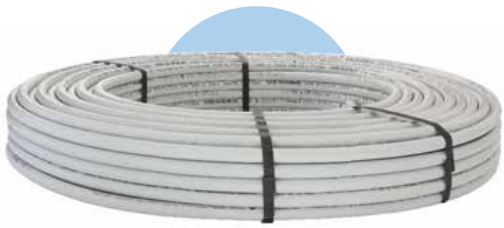
Multilayer plain pipe

## MULTILAYER PLAIN PIPE PEXB/AL/PEXB

COIL STRETCH FILM PACKAGED

| Code HM | Code APE | Size (mm) | Coil length (m) | Q.ty for pallet (m) | Pallet dimension (cm) |
|---|---|---|---|---|---|
| **U66770** | 9MN021620100F | 16 x 2.0 | 100 | 2200 | 78 x 78 x H.235 |
| **U66771** | 9MN021620200F | 16 x 2.0 | 200 | 2600 | 78 x 78 x H.235 |
| **U66773** | 9MN022020100F | 20 x 2.0 | 100 | 1400 | 78 x 78 x H.230 |
| **U73550** | 9MN04263050F | 26 x 3.0 | 50 | 500 | 78 x 78 x H.235 |

*(*) Aluminium 0,3 mm*



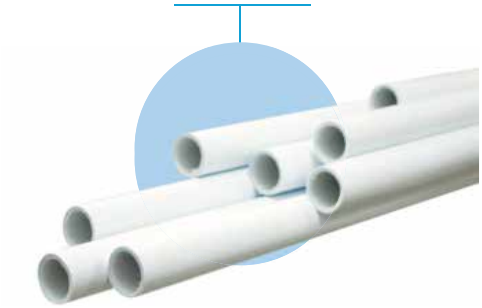
STRAPPED COIL

| Code HM | Code APE | Size (mm) | Coil length (m) | Q.ty for pallet (m) | Pallet dimension (cm) |
|---|---|---|---|---|---|
| **U66772** | 9MN021620500R | 16 x 2.0 | 500 | 3000 | 78 x 78 x H.250 |
| **U66774** | 9MN022020300R | 20 x 2.0 | 300 | 1800 | 100 x 100 x H.230 |

# APE MULTILAYER PIPE

Multilayer plain pipe

## MULTILAYER PIPE STRAIGHT LENGTH PEXB/AL/PEXB

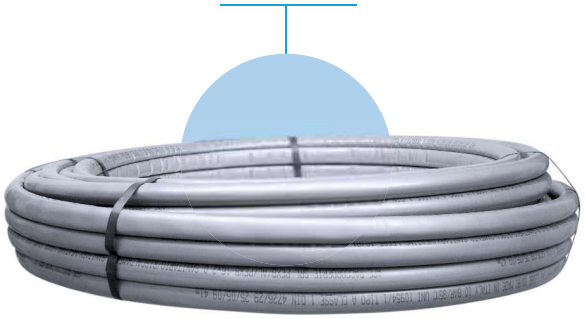


| Code HM | Code APE | Size (mm) | Bars lenght (m) | Stack quantity (m) | (nr) | Basket quantity (m) |
|---|---|---|---|---|---|---|
| **U43251** | 9MN021620BR4 | 16 x 2.0 | 4 | 100 | 25 | 5000 |
| **U43252** | 9MN032020BR4 | 20 x 2.0 | 4 | 100 | 25 | 3300 |
| **U43253** | 9MN042630BR4 | 26 x 3.0 | 4 | 40 | 10 | 2160 |
| **U43254** | 9MN453230BR4 | 32 x 3.0 | 4 | 40 | 10 | 1400 |
| **U43255** | 9MN054035BR | 40 x 3.5 | 4 | 20 | 5 | 900 |
| **U43256** | 9MN065040BR | 50 x 4.0 | 4 | 20 | 5 | 560 |
| **U43257** | 9MN096345BR | 63 x 4.5 | 4 | 12 | 3 | 372 |

# APE MULTILAYER PIPE

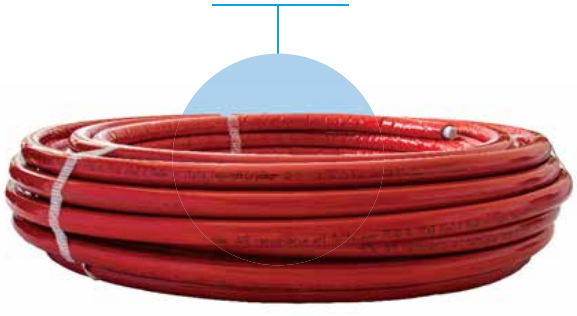
Coated pipe

## GRAY COATED MULTILAYER PIPE PEXB/AL/PEXB FOR HEATING AND DOMESTIC USE



| Code HM | Code APE | Size (mm) | Sheath thickness (mm) | Coil length (m) | Q.ty for pallet (m) | Pallet dimension (cm) |
|---|---|---|---|---|---|---|
| **U66775** | 9MR021620100F | 16 x 2.0 | 6 | 100 | 900 | 78 x 78 x H.240 |
| **U66776** | 9MR02202050SF | 20 x 2.0 | 6 | 50 | 600 | 78 x 78 x H.230 |
| **U73551** | 9MR04263050F | 26 x 3.0 | 9 | 50 | 350 | 78 x 78 x H.240 |
| **U23234** | 9MR45323025F | 32 x 3.0 | 9 | 25 | 300 | 100 x 100 x H.230 |

## RED COATED MULTILAYER PIPE PEXB/AL/PEXB FOR HEATING AND PLUMBING

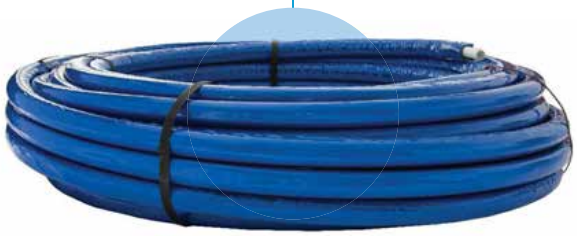


| Code HM | Code | Size (mm) | Sheath thickness (mm) | Coil length (m) | Q.ty for pallet (m) | Pallet dimension (cm) |
|---|---|---|---|---|---|---|
| U10941 | 9MR021620100FR | 16 x 2.0 | 6 | 100 | 900 | 78 x 78 x H.240 |
| U10944 | 9MR02202050SFR | 20 x 2.0 | 6 | 50 | 600 | 78 x 78 x H.230 |
| U10946 | 9MR04263050FR | 26 x 3.0 | 9 | 50 | 350 | 78 x 78 x H.240 |
| U49425 | 9MR45323025FR | 32 x 3.0 | 9 | 25 | 300 | 100 x 100 x H.230 |

# APE MULTILAYER PIPE

Coated pipe

## BLUE COATED MULTILAYER PIPE PEXB/AL/PEXB FOR HEATING AND PLUMBING



| Code HM | Code APE | Size (mm) | Sheath thickness (mm) | Coil length (m) | Q.ty for pallet (m) | Pallet dimension (cm) |
|---|---|---|---|---|---|---|
| U10940 | 9MR021620100FB | 16 x 2.0 | 6 | 100 | 900 | 78 x 78 x H.240 |
| U10942 | 9MR02202050SFB | 20 x 2.0 | 6 | 50 | 600 | 78 x 78 x H.230 |
| U10945 | 9MR04263050FB | 26 x 3.0 | 9 | 50 | 350 | 78 x 78 x H.240 |
| U49426 | 9MR45323025FB | 32 x 3.0 | 9 | 25 | 300 | 100 x 100 x H.230 |

## WITHE COATED MULTILAYER PIPE PEXB/AL/PEXB FOR AIR CONDITIONING

| Code HM | Code APE | Size (mm) | Sheath thickness (mm) | Coil length (m) | Q.ty for pallet (m) | Pallet dimension (cm) |
|---|---|---|---|---|---|---|
| U42368 | 9MRC02162050F | 16 x 2.0 | 10 | 50 | 500 | 78 x 78 x H.230 |
| U42383 | 9MRC03202050F | 20 x 2.0 | 13 | 50 | 400 | 100 x 100x H.230 |
| U42384 | 9MRC04263050F | 26 x 3.0 | 13 | 50 | 350 | 100 x 100 x H.230 |
| U42398 | 9MRC45323025F | 32 x 3.0 | 13 | 25 | 200 | 100 x 100 x H.230 |

# TECHNICAL SPECIFICATIONS

## APE MULTILAYER

## INTRODUCTION

Ape Raccorderie, a leading manufacturer in the Italian and foreign plumbing and heating fittings industry, produces water and gas distribution systems in its own factories. The APE RACCORDERIE system certified by major international bodies consists of both screw and press fittings and the APE MULTILAYER pipe. The entire production chain is guaranteed by the high levels of expertise and professionalism of the Ape Raccorderie quality system that ensures a high quality standard of a MADE IN ITALY product. The APE MULTILAYER pipe is suitable for conveying both technical water and water for sanitary and drinking use; it has passed all UNI EN ISO 21003 tests obtaining the following certificates: **KIWA** no. K66358 and no. K94485, **DWGV** DW-8501CN0176, DW-8501CS0266 and DW-8501CR0411, **WRAS** no. 250304017 , **ATG** 3212, **AENOR** 001/007418, 001/007419, **AFNOR** no. 101160 Holder 045, **KOMO** K25301 and **DIN CERTCO** 3V370 MVR. The APE MULTILAYER pipe is built with a double inner and outer layer made of cross-linked polyethylene according to Method B (PEXb/AL/PEXb) and an aluminium alloy intermediate layer. The pipe exploits the technical characteristics of aluminium, ensuring a high level of structural mouldability and creating a complete barrier to oxygen.

**Applications**

The APE MULTILAYER system has a wide range of possible applications - a single pipe to meet the most diverse installation requirements. APE MULTILAYER can be used in different fields - from water field, for the adduction of water from the water mains, to thermal field, for the realisation of air conditioning and heating systems; in the sanitary field, for the realisation of cold and hot water distribution networks. The APE MULTILAYER pipe is adaptable to all application fields - domestic, industrial and tertiary sectors in general.

**Ape Pipes product range**

APE MULTILAYER boasts a wide range of products to best satisfy the requirements of any plumbing system. The MULTILAYER (PEXb/AL/PEXb) pipe is available in diameters from 16 to 63 mm. The pipe is also available in the same diameters with an insulating sleeve suitable both for heating and air conditioning, as well as in a sheathed version for the countries of northern Europe. The pipes satisfy the requirement of UNI EN ISO 21003 for conveying hot and cold potable fluids for human consumption, for radiator heating, air conditioning, radiant floor panel systems and other facilities.

Marking

BRL K536-E
Certificates valid for diameters Ø16- Ø20- Ø26- Ø32- Ø40- Ø50- Ø63

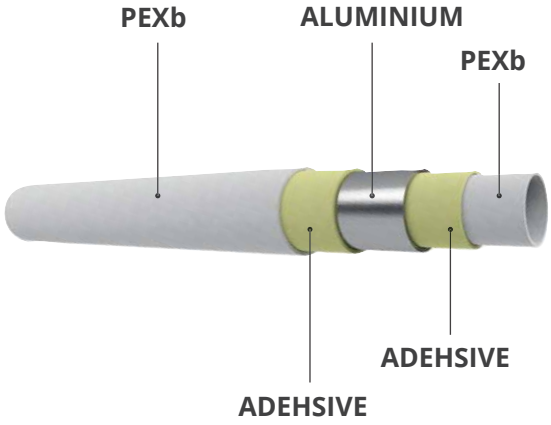
Certificate valid for diameters Ø16- Ø20- Ø26- Ø32

Certificate valid for diameters Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø16- Ø20- Ø25- Ø32

# APE MULTILAYER

APE MULTILAYER (PEXb/Al/PEXb) pipe, UNI EN ISO 21003 and DIN 4726 compliant. This pipe consists of a double inner and outer layer of crosslinked polyethylene PEXb (silane method - B) bound by a special adhesive to a longitudinally welded (TIG butt welded) intermediate aluminium alloy layer. This structure is highly shapeable, provides a complete barrier to oxygen, ensures total hygiene and high corrosion resistance since fluids come in contact only with the inner PEXb layer.

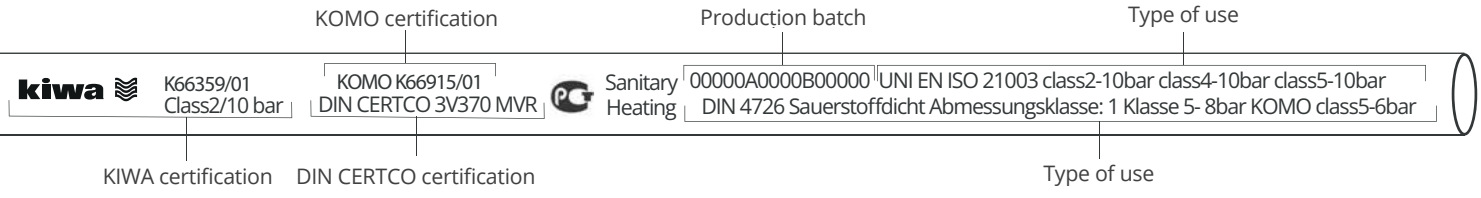



## DIMENSIONAL CHARACTERISTICS COLI

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Outer diameter** | mm | 16 | 18 | 20 | 25 | 26 | 32 | 40 | 50 | 63 |
| **Inner diameter** | mm | 12 | 14 | 16 | 20 | 20 | 26 | 33 | 42 | 54 |
| **Weight** | g/m | 94 | 129 | 143 | 222 | 265 | 343 | 571 | 727 | 1120 |
| **Total thickness** | mm | 2 | 2 | 2 | 2,5 | 3 | 3 | 3,5 | 4 | 4,5 |

## TECHNICAL SPECIFICATIONS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Outer diameter** | mm | 16 | 18 | 20 | 25 | 26 | 32 | 40 | 50 | 63 |
| **Volume of water** | l/m | 0,113 | 0,154 | 0,201 | 0,314 | 0,314 | 0,531 | 0,855 | 1,385 | 2,290 |
| **Internal roughness** | µm | 7 | | | | | | | | |
| **Thermal conductivity at 20°C** | W/mK | 0,43 | | | | | | | | |
| **Coefficient of expansion** | mm/m°C | 0,026 | | | | | | | | |
| **Degree of crosslinking** | % | > 65% | | | | | | | | |
| **Oxygen permeability** | mg/l | 0 | | | | | | | | |
| **Colour** | | White | | | | | | | | |



# TECHNICAL SPECIFICATIONS

## APE MULTILAYER

### TECHNICAL SPECIFICATIONS

| | | |
|---|---|---|
| **Type** | | PEXb/Al/PEXb Multilayer pipe |
| **Field of application** | | Plumbing in civil, industrial and commercial applications. |
| **Fluid** | | Potable water, technical water, and water glycol (*). |
| **Continuous use temperature** | °C | 95 |
| **Max peak temperature** | °C | 110 |
| **Maximum operating pressure at 95°C** | bar | 10 |
| **Maximum operating pressure at 20°C** | bar | 30 |
| **Duration at 95°C and 10 bar** | years | 50 |
| **Storage** | | Avoid prolonged exposure to direct sunlight |
| **Minimum bend radius** | | 5 times the diameter |

*(*) In the case of water glycol, in order to define the minimum operating temperature, it is necessary to know the elements of the mixture and the various concentrations, never exceed the value of 30%*

### THERMAL CONDUCTIVITY OF HOT WATER PIPE (UNI EN 1264)

| **Materials** | **Thermal conductivity** (a 40°C) (W/(mK) | **Oxygen permeability** (mg/l) |
|---|---|---|
| PEX pipe | 0,35 | <0,1 |
| multilayer pipe | 0,43 | =0 |
| PP pipe | 0,22 | <0,3 |
| PB pipe | 0,22 | <0,3 |
| steel pipe | 52 | =0 |
| copper pipe | 390 | =0 |

WRAS APPROVED PRODUCT kiwa BRL K536-E DVGW atg NF
Certificates valid for diameters Ø16- Ø20- Ø26- Ø32- Ø40- Ø50- Ø63

DIN CERTIPLUS
Certificate valid for diameters Ø16- Ø20- Ø26- Ø32

KOMO
Certificate valid for diameters Ø26- Ø32- Ø40- Ø50- Ø63

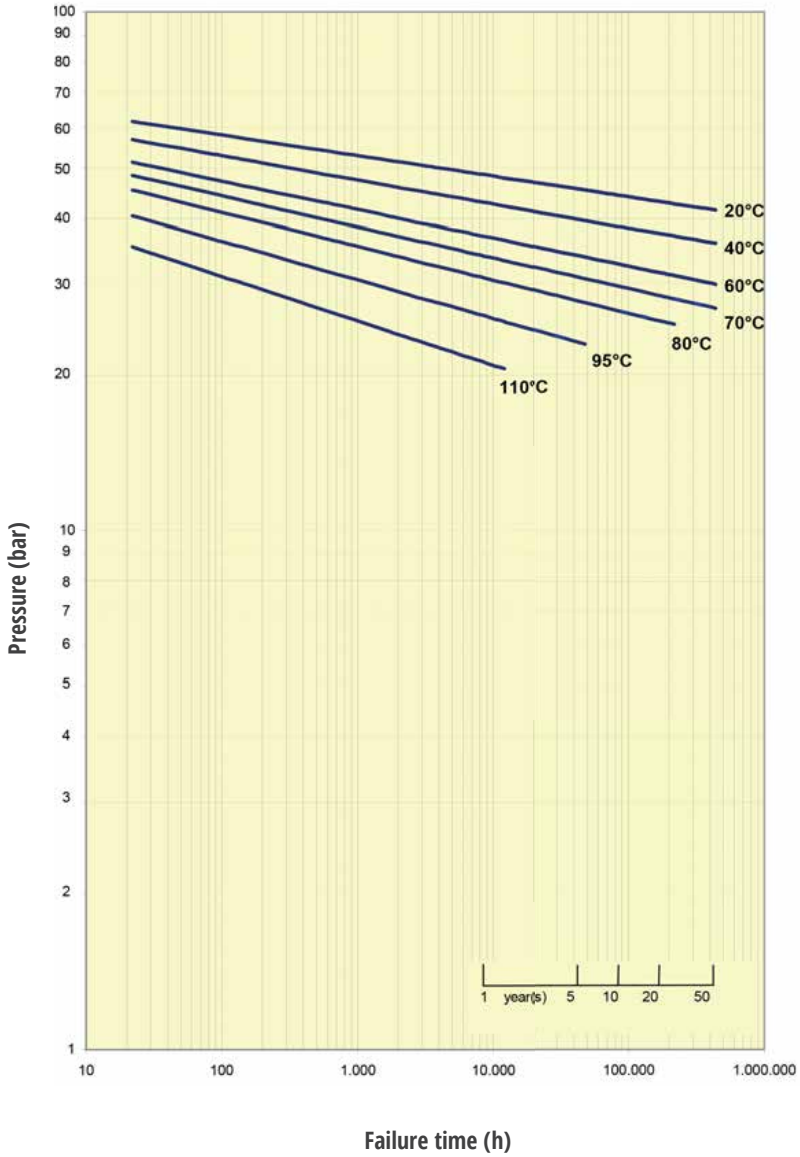
AENOR PLASTIC PIPING SYSTEMS
Certificate valid for diameters Ø16- Ø20- Ø25- Ø32

## CLASSIFICATION OF SERVICE CONDITIONS UNI – EN ISO 21003

| Application class | Design temperature Td [°C] | Time b at Td [years] | T max [°C] | Time at T max [years] | T mal [°C] | Time at T mal [h] | Typical field of application |
|---|---|---|---|---|---|---|---|
| 1 | 60 | 49 | 80 | 1 | 95 | 100 | Hot water supply (60°C) |
| 2 | 70 | 49 | 80 | 1 | 95 | 100 | Hot water supply (70°C) |
| 4 (*) | 20 + 40 + 60 | 2,5 20 25 | 70 | 2,5 | 100 | 100 | Underfloor heating and low-temperature radiators |
| 5 (**) | 20 + 60 + 80 | 14 25 10 | 90 | 1 | 100 | 100 | High-temperature radiators |

*(*) A country may select either class 1 or 2 in conformity with ist national regulations.*
*(**) Where more then one design temperature for time and associated temperature appears for any class, they should be aggregated.*

## REGRESSION CURVES DIAMETER 16X2



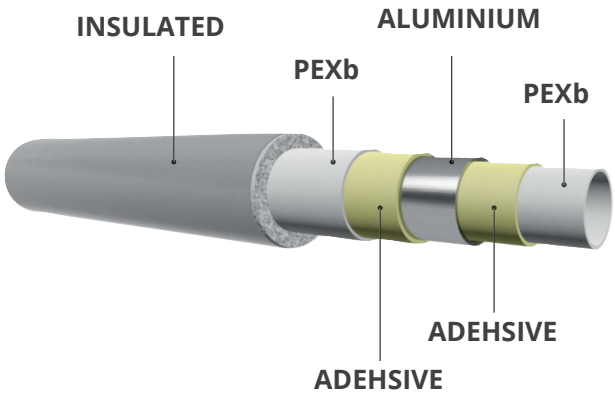
# TECHNICAL SPECIFICATIONS

## APE MULTILAYER

## INSULATED MULTILAYER

**for heating and pluming / air conditioning**

APE MULTILAYER (PEXb/Al/PEXb) is an insulated multilayer pipe for heating and cooling applications. This pipe consists of a double inner and outer layer of crosslinked polyethylene PEXb (silane method - B) bound by a special adhesive to a longitudinally welded (TIG butt welded) intermediate aluminium alloy layer and a closed cell polyethylene foam insulating sheath (PE- LD) protected by a scratch resistant PE-LD layer. The pipe is highly shapeable, provides a complete barrier to oxygen, ensures total hygiene and high corrosion resistance since fluids come in contact only with the inner PEXb layer.
Sheath thermal conductivity at 40°C: 0.04 W/mK. The thickness of the pipe insulating layers are compliant with D.P.R. no. 412 1993. The insulated pipe is approved according to the Ministerial Decrees June 26, 1984 and September 3, 2001.Reaction to fire Class CL-s1, d0.




### DIMENSIONAL CHARACTERISTICS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Outer Diameter** | mm | 16 | 18 | 20 | 20 | 25 | 26 | 32 |
| **Sheath thickness for heating** | mm | 6 | 6 | 6 | 9 | 9 | 9 | 9 |
| **Diameter pipe + sheath (heating)** | mm | 28 | 30 | 32 | 38 | 43 | 44 | 50 |
| **Sheath thickness for cooling** | mm | 10 | 10 | 13 | 13 | 13 | 13 | 13 |
| **Diameter pipe + sheath (cooling)** | mm | 36 | 38 | 46 | 46 | 51 | 52 | 58 |

### TECHNICAL SPECIFICATIONS

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Outer Diameter** | mm | 16 | 18 | 20 | 25 | 26 | 32 |
| **Volume of water** | l/m | 0,113 | 0,154 | 0,201 | 0,314 | 0,314 | 0,531 |
| **Internal roughness** | µm | 7 | | | | | |
| **Sheath thermal conductivity at 40°C** | W/mK | 0,0397 | | | | | |
| **Sheath density** | kg/m3 | 35 to 45 | | | | | |
| **Degree of crosslinking** | % | > 65% | | | | | |
| **Oxygen permeability** | mg/l | 0 | | | | | |
| **Colour** | | Gray for heating; red and blue for domestic use; white for cooling | | | | | |

Certificates valid for diameters Ø16- Ø20- Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø16- Ø20- Ø26- Ø32

Certificate valid for diameters Ø26- Ø32- Ø40- Ø50- Ø63

Certificate valid for diameters Ø16- Ø20- Ø25- Ø32

## TECHNICAL SPECIFICATIONS

| | | |
|---|---|---|
| **Pipe material** | | PEXb/Al/PEXb Multilayer pipe |
| **Sheath material** | | closed-cell polyethylene foam PE-LD |
| **Scratch-resistant finish layer** | | closed-cell polyethylene foam PE-LD |
| **Field of application** | | Plumbing in civil, industrial and commercial applications. |
| **Fluid** | | Potable water, technical water, and water glycol (*). |
| **Continuous use temperature** | °C | 95 |
| **Max. peak temperature** | °C | 110 |
| **Maximum operating pressure at 95°C** | bar | 10 |
| **Maximum operating pressure at 20°C** | bar | 30 |
| **Duration at 95°C and 10 bar** | years | 50 |
| **Resistance to diffusion of water vapour** | μ | 5482 |
| **Presence of HCFC - CFC** | | No |
| **Storage** | | Avoid prolonged exposure to direct sunlight |
| **Minimum bend radius (**)** | | 5 times the diameter |

*(*) In the case of water glycol, in order to define the minimum operating temperature, it is necessary to know the elements of the mixture and the various concentrations, never exceed the value of 30%*
*(**) Take the thickness of the sheath into account when bending a pipe with a bender.*

# TECHNICAL SPECIFICATIONS

## APE MULTILAYER

**CALCULATION OF INSULATION THICKNESS OF DISTRIBUTION NETWORKS ACCORDING TO ITALIAN PRESIDENTIAL DECREE DPR 412/93.**

| Sheath thermal conductivity | Outer Diameter (mm) | | | | | |
|---|---|---|---|---|---|---|
| W/m °C | <20 | da 20 a 39 | da 40 a 59 | da 60 a 79 | da 80 a 99 | >100 |
| 0,030 | 13 | 19 | 26 | 33 | 37 | 40 |
| 0,032 | 14 | 21 | 29 | 36 | 40 | 44 |
| 0,034 | 15 | 23 | 31 | 39 | 44 | 48 |
| 0,036 | 17 | 25 | 34 | 43 | 47 | 52 |
| **0,038** | **18** | **28** | **37** | **46** | **51** | **56** |
| **0,040** | **20** | **30** | **40** | **50** | **55** | **60** |
| 0,042 | 22 | 32 | 43 | 54 | 59 | 64 |
| 0,044 | 24 | 35 | 46 | 58 | 63 | 69 |
| 0,046 | 26 | 38 | 50 | 62 | 68 | 74 |
| 0,048 | 28 | 41 | 54 | 66 | 72 | 79 |
| 0,050 | 30 | 44 | 58 | 71 | 77 | 84 |



**NOTES:**

Vertical pipe lines must be placed inside the building and the minimum insulation thickness values given in the table, **are to be multiplied by 0.5.**

For pipes running within structures that do not face outdoors or unheated rooms, the thickness values given in the table, **are to be multiplied by 0.3.**

**CASE A: Pipes running in unheated spaces**
λ (Ape MULTILAYER insulation) = 0.040
Ø26 Pipe -> minimum insulation thickness 30 mm

**CASE B: Pipes running in external walls**
λ (Ape MULTILAYER insulation) = 0.040
Ø26 Pipe -> minimum insulation thickness 30 mm x 0.5 = 15 mm

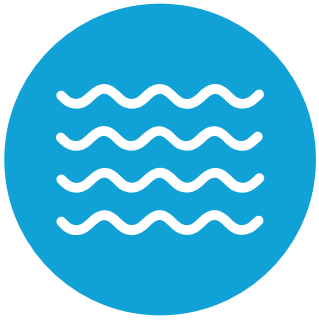
**CASE C: Pipes running in heated spaces**
λ (Ape MULTILAYER insulation) = 0.040
Ø26 Pipe -> minimum insulation thickness 30 mm x 0.3 = 9 mm

# CARATTERISTICHE

## APE MULTILAYER

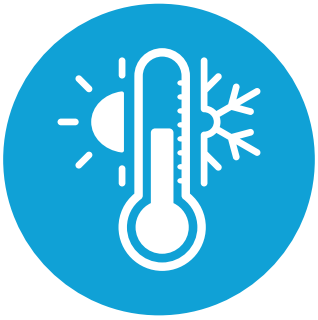
### CONSTANT DIAMETER

The section of the curve remains constant even with broad variation in the radius of curvature: if bent, the pipe remains shaped thanks to the aluminium core.



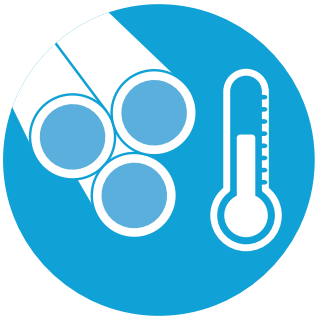
### FLOW

The head loss is very limited thanks to the minimal roughness of the internal layer. Moreover PEXb does not allow the formation of mineral deposits or rust.



### LOW CONDUCTIVITY

The heat conductivity of the pipe is very low (0.43 W/m.K) and its dispersion is approximately1/1000 of that of copper.



### THERMAL EXPANSION

The thermal expansion (0.026 mm/m°C) is comparable to that of metal pipe.

### LOW INFLAMMABILITY

The middle metal layer renders the tube not very inflammable and, in the event of smoke, density and emissions are not noxious.

### HIGH INNER RESISTANCE

The PE-X inner layer is corrosion and mineral deposit proof, and it does not allow rust particles, mineral scales or flaking resulting from galvanic corrosion to attach. PE-X is particularly resistant to abrasion.

## LIGHTNESS

The specific weights of the materials used are very low and give the MULTILAYER pipe impressive lightness.

## HIGH SOUND ABSORPTION

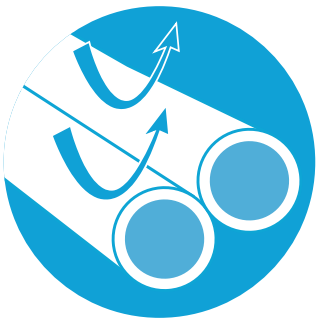
The internal and external coating of PE-X pipes renders them highly sound absorbing with respect to traditional metal pipes.

## LONG DURATION

The materials, if used correctly (pressure up to 10 bar, temperature 0-95°C) ensure a lifespan of more than 50 years.

## HYGIENE

The materials used for the pipes and fittings are non-toxic and highly indicated for potable water conduction systems.



## RESISTANCE TO EXTERNAL AGENTS

The aluminium middle layer prevents the passage of gaseous molecules, the risk of corrosion from oxygen infiltration anddamage due to UV ray exposure.

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