

# E20540JCASS-12.7MB DUCT

## E20® Coaxial/Microduct Hybrid Buried Cable



- E20 is a solution that enables service providers the ability to bridge HFC networks to FTTx. The E20 composite coaxial/fiber product line combines fiber, microducts, and coaxial cable under one jacket
- Serves businesses in a new commercial serving area
- Mitigates future cost of fiber installation
- Saves on initial installation due to “single sheath” vs. multiple sheaths
- Ideal for commercial data customers that also require video
- All products tested to industry standards

**OBSOLETE**

## Product Classification

<b>Product Type</b>	Hybrid cable, coax and fiber-duct
<b>Product Brand</b>	E20®

## General Specifications

<b>Cable Series</b>	QR 540
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## Dimensions

<b>Height</b>	29.718 mm   1.17 in
<b>Width</b>	17.018 mm   0.67 in
<b>Outer Jacket Thickness, nominal</b>	0.762 mm   0.03 in

## Material Specifications

<b>Outer Jacket Material</b>	Medium density polyethylene (MDPE)
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## Mechanical Specifications

<b>Minimum Bend Radius</b>	152.4 mm   6 in
<b>Pulling Tension, maximum</b>	86.183 kg   190 lb

## Environmental Specifications

<b>Environmental Space</b>	Buried
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# E20540JCASS-12.7MB DUCT

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## Packaging and Weights

**Weight, gross** 254.476 kg/km | 171 lb/kft

## Regulatory Compliance/Certifications

### Agency

ISO 9001:2015



### Classification

Designed, manufactured and/or distributed under this quality management system

## Included Products

- |                                |   |   |
|--------------------------------|---|---|
| 360000000<br>12.7MB DUCT EMPTY | - | ConQuest® Empty Conduit, 12.7 mm, black   |
| 360000013<br>12.7MB DUCT EMPTY | - | ConQuest® Empty Conduit, 12.7 mm, black   |
| 5510192<br>QR® 540 JCASS       | - | 75 Ohm QR® Trunk and Distribution Cable, black PE jacket, flooded for underground |

# 360000000 | 12.7MB DUCT EMPTY

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ConQuest® Empty Conduit, 12.7 mm, black



## Product Classification

<b>Product Type</b>	Empty conduit
<b>Product Brand</b>	ConQuest®

## General Specifications

<b>Color</b>	Black
<b>Conduit Type</b>	Non-toneable
<b>Density Test Method</b>	ASTM D792A
<b>Density, maximum</b>	0.955 g/cm <sup>3</sup>   0.035 lb/in <sup>3</sup>
<b>Density, minimum</b>	0.941 g/cm <sup>3</sup>   0.034 lb/in <sup>3</sup>
<b>Design Standard</b>	ASTM D3350-05
<b>Wall Type</b>	Smooth

## Dimensions

<b>Inner Diameter, nominal</b>	10.008 mm   0.394 in
<b>Outer Diameter, nominal</b>	12.7 mm   0.5 in
<b>Wall Thickness, minimum</b>	1.346 mm   0.053 in
<b>Nominal Size</b>	12.7 mm

## Material Specifications

<b>Flexural Modulus, minimum</b>	551.581 N/mm <sup>2</sup>   80000 psi
<b>Flexural Property Test Method</b>	ASTM D790
<b>Hydrostatic Design Basis</b>	Not pressure rated
<b>Hydrostatic Design Test Method</b>	ASTM D2837
<b>Material Type</b>	High density polyethylene (HDPE)

# 360000000 | 12.7MB DUCT EMPTY

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<b>Melt Flow Rate Test Method</b>	ASTM D1238
<b>Melt Flow Rate, maximum</b>	0.39 g/10 min

## Mechanical Specifications

<b>Minimum Bend Radius, unsupported</b>	152.4 mm   6 in
<b>Tensile Property Test Method</b>	ASTM D638
<b>Tensile Strength at yield, minimum</b>	20.684 N/mm <sup>2</sup>   3000 psi
<b>Pulling Tension, maximum</b>	86.183 kg   190 lb

## Environmental Specifications

<b>Environmental Stress Crack Resistance</b>	Failure rate of 10% within 96 hours
<b>Environmental Stress Test Method</b>	ASTM D1693, ESCR Condition B

## Packaging and Weights

<b>Weight, net</b>	46.133 kg/km   31 lb/kft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system



## \* Footnotes

**Environmental Stress Crack Resistance** ESCR—Environmental Stress Crack Resistance

# 360000013 | 12.7MB DUCT EMPTY

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ConQuest® Empty Conduit, 12.7 mm, black



## Product Classification

<b>Product Type</b>	Empty conduit
<b>Product Brand</b>	ConQuest®

## General Specifications

<b>Color</b>	Black
<b>Conduit Type</b>	Non-toneable
<b>Density Test Method</b>	ASTM D792A
<b>Density, maximum</b>	0.955 g/cm <sup>3</sup>   0.035 lb/in <sup>3</sup>
<b>Density, minimum</b>	0.941 g/cm <sup>3</sup>   0.034 lb/in <sup>3</sup>
<b>Design Standard</b>	ASTM D3350-05
<b>Wall Type</b>	Smooth

## Dimensions

<b>Inner Diameter, nominal</b>	10.008 mm   0.394 in
<b>Outer Diameter, nominal</b>	12.7 mm   0.5 in
<b>Wall Thickness, minimum</b>	1.346 mm   0.053 in
<b>Nominal Size</b>	12.7 mm

## Material Specifications

<b>Flexural Modulus, minimum</b>	551.581 N/mm <sup>2</sup>   80000 psi
<b>Flexural Property Test Method</b>	ASTM D790
<b>Hydrostatic Design Basis</b>	Not pressure rated
<b>Hydrostatic Design Test Method</b>	ASTM D2837
<b>Material Type</b>	High density polyethylene (HDPE)

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<b>Melt Flow Rate Test Method</b>	ASTM D1238
<b>Melt Flow Rate, maximum</b>	0.39 g/10 min

## Mechanical Specifications

<b>Minimum Bend Radius, unsupported</b>	152.4 mm   6 in
<b>Tensile Property Test Method</b>	ASTM D638
<b>Tensile Strength at yield, minimum</b>	20.684 N/mm <sup>2</sup>   3000 psi
<b>Pulling Tension, maximum</b>	86.183 kg   190 lb

## Environmental Specifications

<b>Environmental Stress Crack Resistance</b>	Failure rate of 10% within 96 hours
<b>Environmental Stress Test Method</b>	ASTM D1693, ESCR Condition B

## Packaging and Weights

<b>Weight, net</b>	46.133 kg/km   31 lb/kft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system



## \* Footnotes

**Environmental Stress Crack Resistance** ESCR—Environmental Stress Crack Resistance

# 5510192 | QR® 540 JCASS

75 Ohm QR® Trunk and Distribution Cable, black PE jacket, flooded for underground



## Product Classification

<b>Product Type</b>	Coaxial hardline cable
<b>Product Brand</b>	QR®

## General Specifications

<b>Cable Type</b>	540 Series
<b>Construction Type</b>	Welded
<b>Jacket Color</b>	Black
<b>Short Description</b>	QR 540 JCASS SM PR2171

## Dimensions

<b>Cable Length</b>	1,127.76 m   3700 ft
<b>Diameter Over Center Conductor, nominal</b>	3.15 mm   0.124 in
<b>Diameter Over Dielectric, nominal</b>	13.056 mm   0.514 in
<b>Diameter Over Jacket, nominal</b>	15.494 mm   0.61 in
<b>Diameter Over Outer Conductor, nominal</b>	13.716 mm   0.54 in
<b>Jacket Thickness, nominal</b>	0.889 mm   0.035 in
<b>Outer Conductor Thickness, nominal</b>	0.343 mm   0.014 in

## Electrical Specifications

<b>Capacitance</b>	50.197 pF/m   15.3 pF/ft
<b>Capacitance Tolerance</b>	±1.0 pF/ft
<b>Characteristic Impedance</b>	75 ohm
<b>Characteristic Impedance Tolerance</b>	±2 ohm
<b>dc Resistance Note</b>	Nominal values based on a standard condition of 20 °C (68 °F)

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<b>dc Resistance, Inner Conductor, nominal</b>	3.346 ohms/km   1.02 ohms/kft
<b>dc Resistance, Loop, nominal</b>	5.282 ohms/km   1.61 ohms/kft
<b>dc Resistance, Outer Conductor, nominal</b>	1.936 ohms/km   0.59 ohms/kft
<b>Jacket Spark Test Voltage</b>	5000 Vac
<b>Nominal Velocity of Propagation (NVP)</b>	88 %
<b>Operating Frequency Band</b>	5–3000 MHz
<b>Structural Return Loss</b>	24 dB @ 1003–1218 MHz   24 dB @ 1219–1794 MHz   30 dB @ 5–1002 MHz
<b>Structural Return Loss, Grade N</b>	=24 dB @ 1003–1218 MHz   =24 dB @ 1219–1794 MHz   =30 dB @ 5–1002 MHz

## Attenuation

Frequency (MHz)	Attenuation (dB/100 m)	Attenuation (dB/100 ft)
5.0	0.46	0.14
55.0	1.54	0.47
85.0	1.94	0.59
204.0	3.05	0.93
211.0	3.12	0.95
250.0	3.38	1.03
300.0	3.71	1.13
350.0	4.04	1.23
400.0	4.33	1.32
450.0	4.59	1.4
500.0	4.89	1.49
550.0	5.12	1.56
600.0	5.38	1.64
750.0	6.07	1.85
865.0	6.56	2
1002.0	7.12	2.17
1218.0	7.89	2.41
1500.0	9.07	2.76
1794.0	10.11	3.08
1800.0	10.13	3.09
2000.0	10.81	3.29
2200.0	11.46	3.49



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<b>2500.0</b>	12.41	3.78
<b>2700.0</b>	13.03	3.97
<b>3000.0</b>	13.93	4.24

## Material Specifications

<b>Center Conductor Material</b>	Copper-clad aluminum
<b>Dielectric Material</b>	Foam PE
<b>Jacket Material</b>	PE
<b>Outer Conductor Material</b>	Aluminum

## Mechanical Specifications

<b>Pulling Tension, maximum</b>	99.79 kg   220 lb
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## Environmental Specifications

<b>Corrosion Protection</b>	Migraheal®
<b>Environmental Space</b>	Buried

## Packaging and Weights

<b>Packaging Type</b>	Reel
<b>Weight, gross</b>	178.58 kg/km   120 lb/kft

## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

