

# MHD-MMDH

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## Hardened Multifiber Optical Connector (HMFOC) cable assembly, HMFOC jack to HMFOC jack, 12-fiber

- Hardened connectors are factory-terminated and environmentally sealed for use in optical drop cable deployments
- Hardened drop cables incorporate hardened connector technology that is designed to withstand the rugged outside plant environment
- Hardened drop cables simplify installation and maintenance by reducing splicing requirements in the distribution portion of the network

## Product Classification

<b>Regional Availability</b>	Asia   Latin America   North America
<b>Product Type</b>	Fiber drop cable assembly
<b>Product Series</b>	MHD

## General Specifications

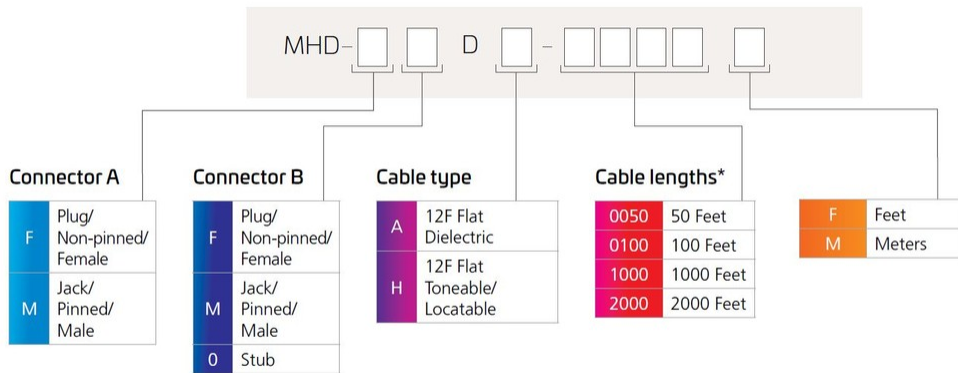
<b>Cable Type</b>	Toneable - Flat
<b>Connector A, quantity</b>	1
<b>Color, boot A</b>	Black
<b>Color, connector A</b>	Black
<b>Connector B, quantity</b>	1
<b>Color, boot B</b>	Black
<b>Color, connector B</b>	Black
<b>Interface, Connector A</b>	Hardened multi-fiber (HMFOC) jack
<b>Interface Feature, connector A</b>	Male   Pinned
<b>Interface, Connector B</b>	Hardened multi-fiber (HMFOC) jack
<b>Interface Feature, connector B</b>	Male   Pinned
<b>Jacket Color</b>	Black
<b>Total Fibers, quantity</b>	12

## Dimensions

<b>Cable Assembly Length Range (m)</b>	8 – 915
<b>Cable Assembly Length Range (ft)</b>	25 – 3000
<b>Cable Outer Diameter</b>	4.3 x 9.9 mm (0.17 x 0.39 in)

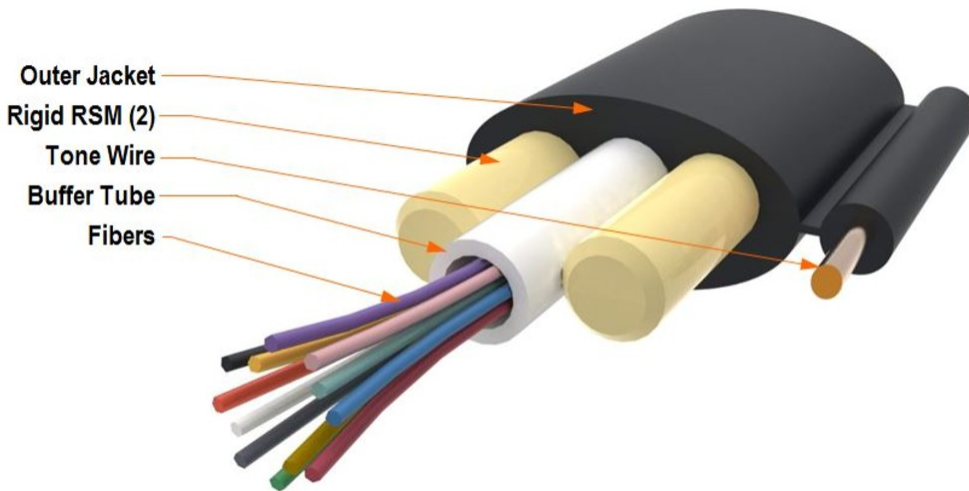
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## Ordering Tree



\* Cable Length shown as an example, additional cable lengths available upon request up to 2,000 ft. (600 m).

## Representative Image



## Mechanical Specifications

<b>Minimum Bend Radius, loaded</b>	86 mm   3.386 in
<b>Minimum Bend Radius, unloaded</b>	81 mm   3.189 in
<b>Tensile Load, long term, maximum</b>	400 N   89.924 lbf
<b>Tensile Load, short term, maximum</b>	1334 N   299.895 lbf

## Optical Specifications

<b>Fiber Mode</b>	Singlemode
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<b>Fiber Type</b>	G.657.A2, TeraSPEED®
<b>Insertion Loss, maximum, connector A</b>	0.45 dB
<b>Insertion Loss, maximum, connector B</b>	0.45 dB
<b>Return Loss, minimum, connector A</b>	65 dB
<b>Return Loss, minimum, connector B</b>	65 dB

## Environmental Specifications

<b>Installation temperature</b>	-30 °C to +70 °C (-22 °F to +158 °F)
<b>Operating Temperature</b>	-40 °C to +70 °C (-40 °F to +158 °F)
<b>Storage Temperature</b>	-40 °C to +75 °C (-40 °F to +167 °F)
<b>Environmental Space</b>	Outdoor, buried
<b>Jacket UV Resistance</b>	UV stabilized
<b>Qualification Standards</b>	IEC 61753-1, category A and G   IP68   Per GR-3152

## Packaging and Weights

<b>Packaging quantity</b>	1
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CHINA-ROHS	Below maximum concentration value
REACH-SVHC	Compliant as per SVHC revision on <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
ROHS	Compliant
UK-ROHS	Compliant

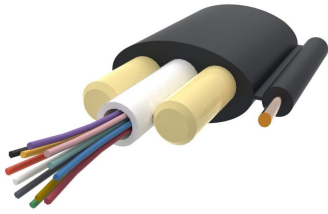


## Included Products

810009374/DB O-012-DF-HY-F12NS/30T /8G1012/1X24AWG	–	Tone Wire Outdoor Drop Cable, 12 fiber Arid Core construction, central loose tube
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# 810009374/DB | O-012-DF-HY-F12NS/30T /8G1012/1X24AWG

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Tone Wire Outdoor Drop Cable, 12 fiber Arid Core construction, central loose tube

## Product Classification

<b>Regional Availability</b>	Asia   Australia/New Zealand   EMEA   Latin America   North America
<b>Portfolio</b>	CommScope®
<b>Product Type</b>	Hybrid cable, fiber and tone-wire

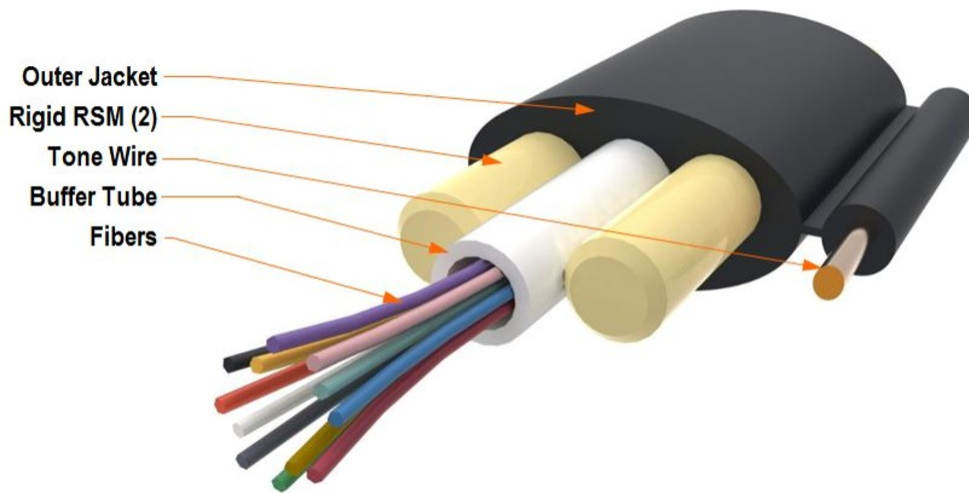
## General Specifications

<b>Cable Type</b>	Central loose tube
<b>Construction Type</b>	Non-armored
<b>Fiber Short Description</b>	O-012-DF-HY-F12NS/20G/1X24AWG
<b>Subunit Type</b>	Gel-filled
<b>Jacket Color</b>	Black
<b>Subunit, quantity</b>	1
<b>Fibers per Subunit, quantity</b>	12
<b>Tone Wire, quantity</b>	1
<b>Total Fiber Count</b>	12

## Dimensions

<b>Height Over Jacket</b>	4.572 mm   0.18 in
<b>Buffer Tube/Subunit Diameter</b>	3.048 mm   0.12 in
<b>Diameter Over Jacket</b>	9.906 mm   0.39 in
<b>Diameter Over Messenger Jacket</b>	2.032 mm   0.08 in
<b>Tone Wire Gauge</b>	24 AWG

## Representative Image



## Mechanical Specifications

<b>Minimum Bend Radius, loaded</b>	86.36 mm   3.4 in
<b>Minimum Bend Radius, unloaded</b>	63.5 mm   2.5 in
<b>Tensile Load, long term, maximum</b>	400.34 N   90 lbf
<b>Tensile Load, short term, maximum</b>	1,334.466 N   300 lbf
<b>Compression</b>	1.018 kg/mm   57 lb/in
<b>Compression Test Method</b>	FOTP-41   IEC 60794-1 E3
<b>Flex</b>	35 cycles
<b>Flex Test Method</b>	FOTP-104   IEC 60794-1 E6
<b>Impact</b>	2.17 ft lb   2.942 N-m
<b>Impact Test Method</b>	FOTP-25   IEC 60794-1 E4
<b>Strain</b>	See long and short term tensile loads
<b>Strain Test Method</b>	FOTP-33   IEC 60794-1 E1
<b>Twist</b>	10 cycles
<b>Twist Test Method</b>	FOTP-85   IEC 60794-1 E7
<b>Vertical Rise, maximum</b>	889.102 m   2917 ft

## Optical Specifications

<b>Fiber Type</b>	G.657.A2   G.657.A2, TeraSPEED®
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## Environmental Specifications

# 810009374/DB | O-012-DF-HY-F12NS/30T /8G1012/1X24AWG

<b>Installation temperature</b>	-30 °C to +70 °C (-22 °F to +158 °F)
<b>Operating Temperature</b>	-40 °C to +70 °C (-40 °F to +158 °F)
<b>Storage Temperature</b>	-40 °C to +75 °C (-40 °F to +167 °F)
<b>Cable Qualification Standards</b>	ANSI/ICEA S-110-717
<b>Environmental Space</b>	Aerial, lashed   Buried
<b>Jacket UV Resistance</b>	UV stabilized
<b>Water Penetration</b>	24 h
<b>Water Penetration Test Method</b>	FOTP-82   IEC 60794-1 F5

## Environmental Test Specifications

<b>Cable Freeze</b>	-2 °C   28.4 °F
<b>Cable Freeze Test Method</b>	FOTP-98   IEC 60794-1 F15
<b>Drip</b>	70 °C   158 °F
<b>Drip Test Method</b>	FOTP-81   IEC 60794-1 E14
<b>Heat Age</b>	-40 °C to +85 °C (-40 °F to +185 °F)
<b>Heat Age Test Method</b>	IEC 60794-1 F9
<b>Low High Bend</b>	-30 °C to +60 °C (-22 °F to +140 °F)
<b>Low High Bend Test Method</b>	FOTP-37   IEC 60794-1 E11
<b>Temperature Cycle</b>	-40 °C to +70 °C (-40 °F to +158 °F)
<b>Temperature Cycle Test Method</b>	FOTP-3   IEC 60794-1 F1

## Packaging and Weights

<b>Cable weight</b>	36.906 kg/km   24.8 lb/kft
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## Regulatory Compliance/Certifications

<b>Agency</b>	<b>Classification</b>
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on <a href="http://www.commscope.com/ProductCompliance">www.commscope.com/ProductCompliance</a>
ROHS	Compliant
UK-ROHS	Compliant



### \* Footnotes

# 810009374/DB | O-012-DF-HY-F12NS/30T /8G1012/1X24AWG

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**Operating Temperature** Specification applicable to non-terminated bulk fiber cable