

## COIA High Temperature Optical Fibres

### Temperature Range from $-40\text{ }^{\circ}\text{C}$ up to $+250\text{ }^{\circ}\text{C}$

High end applications require reliable Special Optical Fibres.

The main typical applications for the latest development of COIA HTF250, High Temperature Optical Fibres up to  $+250\text{ }^{\circ}\text{C}$ , includes medical and industrial lasers, in high temperature environment, for high efficiency fibre optic bundles, harsh environmental sensors, energy research, mining, Fibre Optic DTS, Oil hole drilling & refinery, Food & aircraft industries, car & train tunnel cabling, etc...

This special high-performance material is applied at the fibre drawing. 3 types are available, and some of the properties are shown here.

Name	Glass-Temp. Tg ( $^{\circ}\text{C}$ )	Tensile Strength (MPa)	Application
HPHTC 250 7-7026 ( Low Tg )	- 40	9	Primary Coating (125 $\rightarrow$ 190 $\mu\text{m}$ )
HPHTC 250 8-8035 ( Medium Tg )	+ 55	30	Secondary Coating (190 $\rightarrow$ 245 $\mu\text{m}$ ) ( or 1-Layer-Coating (125 $\rightarrow$ 245 $\mu\text{m}$ )
HPHTC 250 8-8038 ( High Tg )	+ 110	80 - 100	Secondary Coating (190 $\rightarrow$ 245 $\mu\text{m}$ ) ( or 1-Layer-Coating (125 $\rightarrow$ 245 $\mu\text{m}$ )

Low / Medium Tg – Fibre ( Dual Layer )		High Tg – Fibre ( Single Layer )	Operating Temperature	Life Time
Natural	Coloured with *COIA Galaxy <sup>®</sup> HCI 250 UV-Ink	Natural & Coloured with *COIA Galaxy <sup>®</sup> HCI 250 UV-Ink		up to
$-40\text{ }^{\circ}\text{C}$	$+10\text{ }^{\circ}\text{C}$	$+30\text{ }^{\circ}\text{C}$	to $+150\text{ }^{\circ}\text{C}$	$>100$ days
$-30\text{ }^{\circ}\text{C}$	$+15\text{ }^{\circ}\text{C}$	$+35\text{ }^{\circ}\text{C}$	to $+160\text{ }^{\circ}\text{C}$	70 days
$-20\text{ }^{\circ}\text{C}$	$+20\text{ }^{\circ}\text{C}$	$+40\text{ }^{\circ}\text{C}$	to $+170\text{ }^{\circ}\text{C}$	40 days
$-10\text{ }^{\circ}\text{C}$	$+25\text{ }^{\circ}\text{C}$	$+45\text{ }^{\circ}\text{C}$	to $+180\text{ }^{\circ}\text{C}$	20 days
$0\text{ }^{\circ}\text{C}$	$+30\text{ }^{\circ}\text{C}$	$+50\text{ }^{\circ}\text{C}$	to $+190\text{ }^{\circ}\text{C}$	15 days
$+10\text{ }^{\circ}\text{C}$	$+35\text{ }^{\circ}\text{C}$	$+55\text{ }^{\circ}\text{C}$	to $+200\text{ }^{\circ}\text{C}$	10 days
$+20\text{ }^{\circ}\text{C}$	$+40\text{ }^{\circ}\text{C}$	$+60\text{ }^{\circ}\text{C}$	to $+210\text{ }^{\circ}\text{C}$	5 days
$+30\text{ }^{\circ}\text{C}$	$+45\text{ }^{\circ}\text{C}$	$+65\text{ }^{\circ}\text{C}$	to $+220\text{ }^{\circ}\text{C}$	1 day
$+40\text{ }^{\circ}\text{C}$	$+50\text{ }^{\circ}\text{C}$	$+70\text{ }^{\circ}\text{C}$	to $+230\text{ }^{\circ}\text{C}$	12 hours
$+50\text{ }^{\circ}\text{C}$	$+55\text{ }^{\circ}\text{C}$	$+75\text{ }^{\circ}\text{C}$	to $+240\text{ }^{\circ}\text{C}$	6 hours
$+60\text{ }^{\circ}\text{C}$	$+60\text{ }^{\circ}\text{C}$	$+80\text{ }^{\circ}\text{C}$	to $+250\text{ }^{\circ}\text{C}$	3 hours

\* COIA Galaxy<sup>®</sup> HCI 250 High Temperature UV-Ink for colour coding of COIA HTF250 High Temperature Optical Fibres up to  $+250\text{ }^{\circ}\text{C}$ .

*COIA reserves the right to modify above specifications without notice as all Fibres, Preforms and Coatings are subject to COIA's continuing process development and quality improvement policy to ensure high reliability and superior performance of our Products.*

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