These 7 ceramic watches will last you a lifetime, and beyond

The horological industry hasn't seen as much diversity as the last few decades, as companies all over the world finally start boldly experimenting with different materials, hoping to create something that's extraordinary, practical and ultimately, luxurious. Over the years, precious metals have been used and alloys have been concocted, but ceramic remains one of the most unique materials in the market for having properties that are perfect for watchmaking and wearing.

Engineering ceramics — which are used in watch manufacture — are vastly different from the ceramics we know in daily life, otherwise used in bricks, tiles, and tableware. Unlike earthenware, they're made of pure ingredients that usually consist of oxides, carbides, and the like. Engineering ceramics are extremely hard. In fact, they're the hardest class of materials known, usually more than three or four times harder than stainless steel. It's virtually scratch-proof and its inert qualities mean it'll never rust or corrode either.

Ceramic watches are also unaffected by ultraviolet rays produced by the sun, so you can count on your favourite timepiece to never fade. Many brands, in particular craft their dive and sport watches in the material for its anti-magnetic properties. The best part is that despite all the benefits, ceramic watches are actually extremely lightweight, making it perfect for watchmaking.

Here are seven of the best ceramic watches you can find today.

IWC Aquatimer Perpetual Calendar Digital Date-Month Edition "50 Years Aquatimer"

It's extremely complex for a diver's watch, yet we didn't expect anything less from IWC's 50th anniversary special. Made of the new Ceratanium — a new titanium alloy that combines ceramic with titanium — the 49mm watch case is light, corrosionand scratch-resistant with a matte black finish to closely resemble ceramic. Unusually, the perpetual calendar watch indicates the date, month, and leap year digitally, with a flyback chronograph at 12 o'clock, and subsidiary seconds dials at 6 o'clock. Like all Aquatimers, this limited edition version also features IWC SafeDive, an ingenious system that rotates the internal bezel simultaneously thanks to some clever gearing.

Girard-Perregaux Laureato Skeleton Ceramic

Recognisable by its polished octagonal bezel, this architectural Laureato Skeleton finally takes a walk on the dark side with a blacked-out ceramic upgrade. Entirely skeletonised with black PVD-treated and satin-brushed bridges to match the case, the movement within is accented by an 18K pink gold rotor. This visual and tactile contrast plays on light, and while it's not the most legible, the broad pointed luminescent hands still contrast well against the blackened facade. Within, the GP 01800-0006 movement offers a commendable 54 hour power reserve, which also powers a discreet small seconds indicator at 10 o'clock.

Tudor Fastrider Black Shield

Originally introduced with red or khaki accents on the dial in 2013, Tudor resurrects its Fastrider Black Shield model, this time sans colour. The stark monochromatic watch is inspired by the all-black Ducati XDiavel cruiser, with a 42mm black ceramic case to match the matte black dial. Made via a process called "sintering", which sees ceramic powder heated in a mould to create a dense and strong mass, the case and bezel are a single piece that can withstand hard knocks and scratches. The chronograph watch is powered by the self-winding Valjoux 7753, which is widely known for its robustness.

Blancpain Fifty Fathoms Bathyscaphe Flyback Chronograph Blancpain Ocean Commitment II

Introduced as part of the Fifty Fathoms Bathyscaphe range, the Blancpain Ocean Commitment II is crafted entirely from blue ceramic. Yes, including the case, back, crown, pushers and bezel. The 43.6mm watch is a dark matte blue that's made via sintering — a first for the brand and in support of its longstanding commitment to marine conservation. Inside, the calibre F385 movement is automatic, and comes with an adjustable mass balance wheel, column wheel and vertical clutch for the chronograph — the typical bells and whistles of a Blancpain manufacture. The watch is a limited edition of 250 pieces, and a portion of the proceeds will go towards the cause it's created for.

TAG Heuer Carrera Heuer-01 Chronograph in Black Ceramic

As TAG Heuer's best-selling chronograph, it was only a matter of time before the Carrera Heuer-01 saw a ceramic version. Entirely made with smooth, sand-blasted black ceramic, the time-favoured watch is kept visually identical to its earlier iterations made of steel, titanium and gold. Its skeleton dial is also made of ceramic,

exposing the movement within, especially the chronograph gears and date mechanism. Within, the same self-winding Heuer-01 movement, and its red lacquered column wheel are visible under the sapphire caseback.

Grand Seiko Black Ceramic Spring Drive GMT

Grand Seiko watches have long been lusted for its traditional approach to styling and quality. With the new Spring Drive Black Ceramic limited edition though, the Japanese watchmaker is hoping to up the contemporary factor with a new school of design termed "Neo Seiko style". Significantly more complex than a regular Grand Seiko, the limited edition watches are made of zirconia ceramic clad on an inner case made of Bright Titanium. The result is a scratch-proof case that's also seven times harder than stainless steel, but a quarter of its weight.

Jaquet Droz Grande Seconde Ceramic

Pristinely white with polished 18K red gold accents, this Grande Seconde watch is worlds apart from its other blacked-out counterparts on the list, but no less impressive. The 44mm timepiece sees a dial elaborately adorned with white clous de Paris guilloche, punctuated with overlapping subdials — also made of white ceramic — that indicates the time and running seconds. The self-winding Jaquet Droz 2663A is handsomely decorated with traditional côtes de Genève, circular graining, and polished surfaces, and with a respectable power reserve of 68 hours.

VR? AR? MR? Sorry, I'm confused.

Since the beginning of time, most new and emerging technology has nurtured an unhealthy attachment to acronyms, and virtual reality is no different.

To help you get your head around the jargon du jour, we've pulled together this handy guide to what all these acronyms actually mean, and why they are not the same thing.

Virtual reality (VR)

The Wikipedia view: Virtual reality (VR), which can be referred to as immersive multimedia or computer-simulated reality, replicates an environment that simulates a physical presence in places in the real world or an imagined world, allowing the user to interact in that world.

Foundry's interpretation: Virtual reality is the umbrella term for all immersive experiences, which could be created using purely real-world content, purely synthetic content or a hybrid of both.

This is where the industry is getting excited right now. Content-viewing hardware, a.k.a. head-mounted displays (HMDs), ranges from Google Cardboard right up to HTC Vive. The market here is hot, hot, hot and the media is full of news about launches. Second only to excitement about headsets is excitement about cameras. Nokia OZO launched in December, GoPro has its Odyssey—a collaboration with Google Jump, Ricoh has Theta, and there's also Bublcam and Giroptic.

360° video

The Wikipedia view: Immersive videos, more recently known as 360° videos or 360 degree videos, are video recordings of a real-world scene, where the view in every direction is recorded at the same time. During playback the viewer has control of the viewing direction.

Foundry's interpretation: 360° video is an immersive experience using pre-filmed real-world content as the central media. 360° video is a version of VR created with only real-world content.

Here lies a lot of confusion as the industry deliberates on the definition of terminology. The upshot of this debate is that some say that 360° video is not the same as "real VR" and the two terms are not interchangeable.

Our view is that 360° video, as an immersive experience, is one type of VR that sits happily alongside non-real-world content for VR, which we'll get onto now.

Computer-generated VR (CG VR)

That brings us nicely to CG VR, which as the name suggests refers to VR content that is computer-generated (i.e. not real-world). Wikipedia doesn't have a direct definition for CG VR so we'll jump straight into our own view.

Foundry interpretation: CG VR is an immersive experience created entirely from computer-generated content. CG VR can be either pre-rendered and therefore not reactive—in this way it is very similar to 360° video—or rendered in real time using a games engine.

There is also a third type of VR, which is a hybrid between 360° video and CG, where an immersive experience is created using a blend of both content types. Much like in the film industry today there's no real name for this 'third way' of creation, but audiences are used to the concept of visuals being created using a combination of both real-world and CG content. Some of the most exciting VR content being created today sits in this third category.

The AR/MR debate

As if it wasn't all murky enough, beyond the "what is VR?" debate there is a whole conversation going on about AR (augmented reality) vs. MR (mixed reality).

For the most part, in the realm of the consumer, the term "mixed reality" seems to be fading out in favour of "augmented reality". This comes down to the fact that the focus on VR has meant the distinction between MR and AR hasn't been clearly enough drawn yet; this means they are currently being used interchangeably, and whenever that happens, one term will inevitably be favored over the other. Right now, AR is winning.

And breathe.

However, there is a difference between two and we feel it's worth addressing that now, so here goes.

Augmented Reality (AR)

The Wikipedia view: Augmented reality (AR) is a live, direct or indirect view of a physical, real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data.

Foundry interpretation: Augmented reality is an overlay of content on the real world, but that content is not anchored to or part of it. The real-world content and the CG content are not able to respond to each other.

IKEA has developed a table as part of its concept kitchen that suggests recipes based on the ingredients on the table, which is a great example of AR working in the real world, potentially. Google Glass was a first attempt from Google to bring augmented reality to consumers and we'd expect to see more of this in the future.

Mixed reality (MR)

The Wikipedia view: Mixed reality (MR)—sometimes referred to as hybrid reality—is the merging of real and virtual worlds to produce new environments and visualisations where physical and digital objects co-exist and interact in real time.

Foundry's interpretation: Mixed reality is an overlay of synthetic content on the real world that is anchored to and interacts with the real world—picture surgeons overlaying virtual ultrasound images on their patient while performing an operation, for example. The key characteristic of MR is that the synthetic content and the real-world content are able to react to each other in real time.

Hardware associated with mixed reality includes Microsoft's HoloLens, which is set to be big in MR—although Microsoft have dodged the AR/MR debate by introducing yet another term: "holographic computing". Microsoft has just announced a HoloLens emulator for developers so you can make applications for the new tech. Read more about that over on TechCrunch.

Of all the realities we've talked about in this article, mixed reality seems like the furthest from fruition. However, it's not impossible to imagine a future where synthetic content will be able to react to and even interact with the real world in some way.

Virtual reality technologies are developing at breakneck pace. But what challenges need to be overcome for VR experiences to feel truly immersive, as if you're actually there? Find out in our article More real than real: creating a feeling of 'presence' in VR.