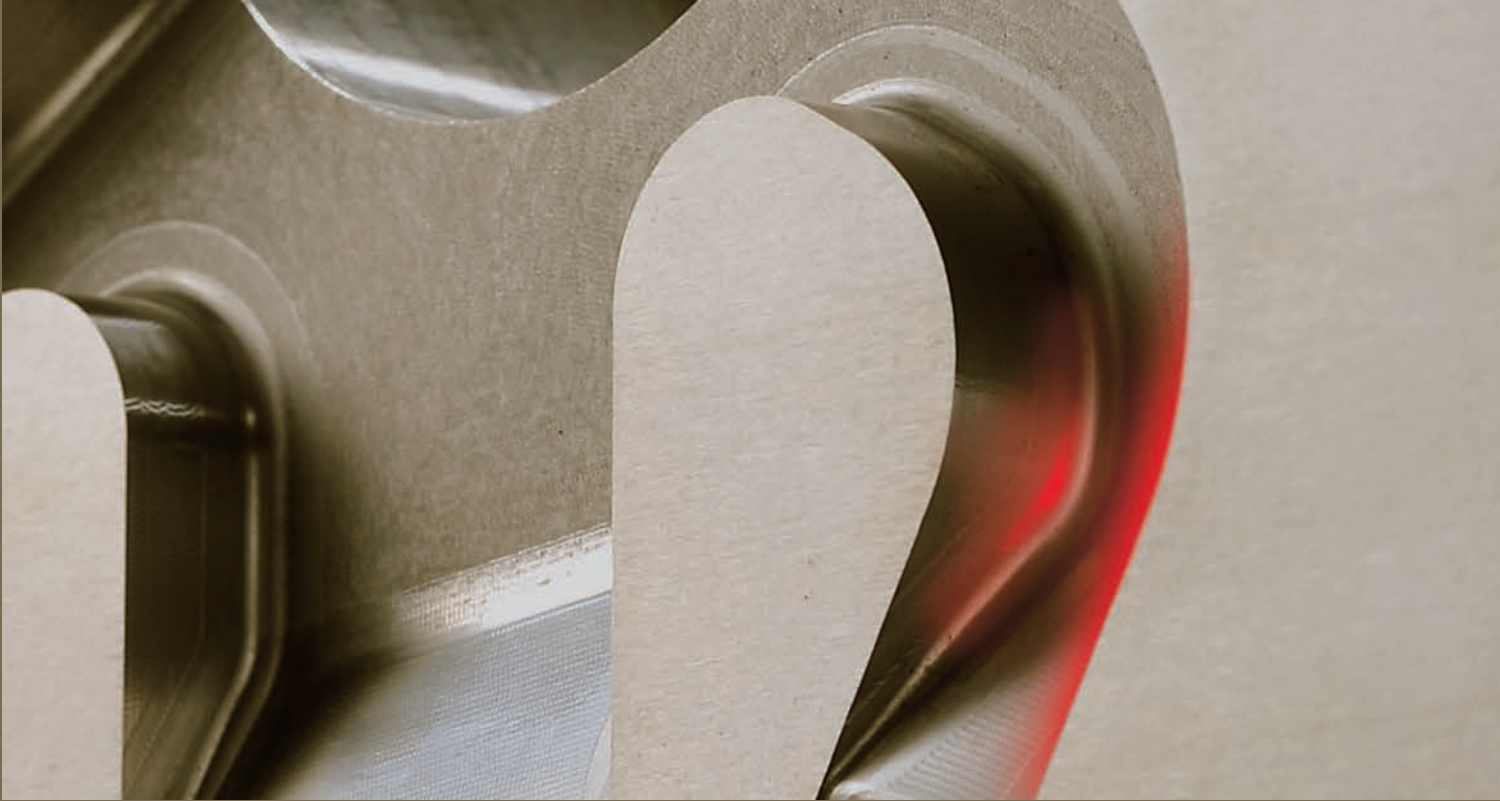


YSS Next-Generation Standard Die Steel for Die Casting

DAC-**i**TM



OUR HERITAGE, YOUR ADVANTAGE **YASUGI SPECIALTY STEEL**

Hitachi Metals

YSS Next-Generation Standard Die Steel for Die Casting

DAC-i™

Our thoughts put into "i"...

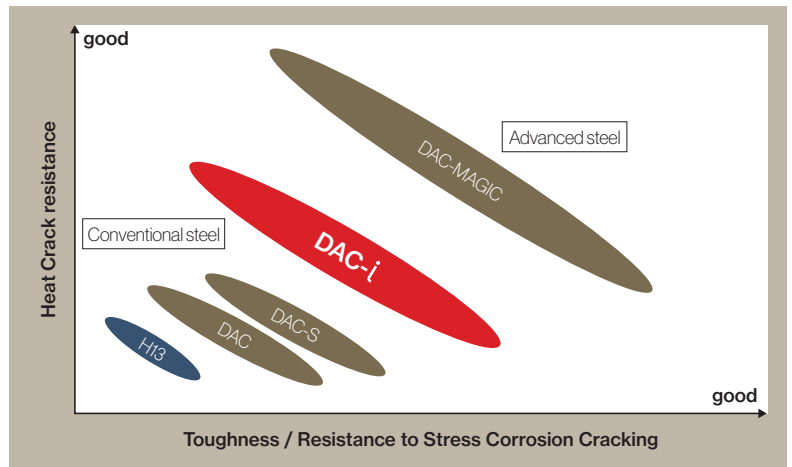
"innovative material" which further evolved "isotropy" breathing on DAC...

We have globally provided DAC with increased toughness by "isotropy" compared with H13 (1.2344). Now we developed new die steel for die casting: DAC-i, which aimed at next-generation standards, further enhancing toughness and strength at elevated temperature as a result of component adjustment and process innovation.

- DAC-i contributes to longer die life by improving of heat crack resistance because of increasing strength at elevated temperature and toughness.
- By using DAC-i, it is expected to reduce large cracks of die and leaking water from cooling hole because of improvement of toughness.

DAC-i has high toughness and high strength at elevated temperature compared with H13 (1.2344) and DAC. Therefore, heat crack resistance of die is increased, and die life improves.

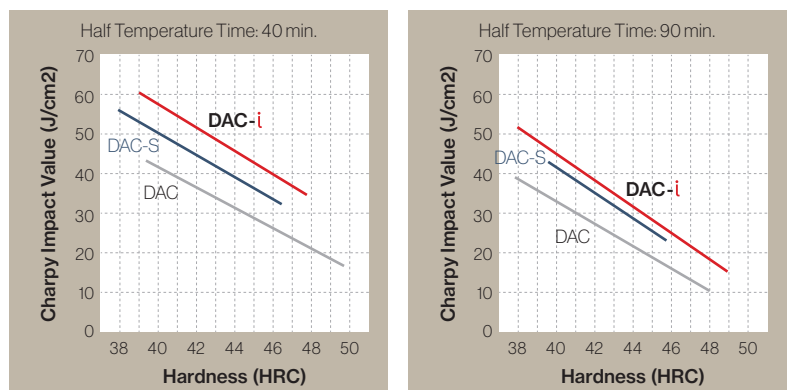
Characteristics(concept)



DAC-S is Superior H13 and is approved to NADCA #207-2003.
DAC-MAGIC is approved to NADCA #207-2011 Grade C.

Toughness (2mm U-notch Charpy impact value)

DAC-i shows higher toughness than DAC. Also even in the condition of slow cooling after quenching, assuming large die, DAC-i shows higher toughness than DAC.

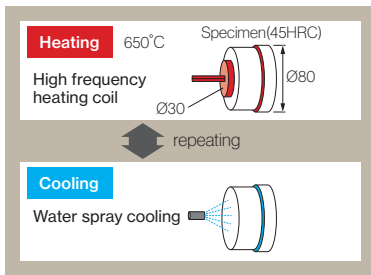


Half Temperature Time:
Time required for cooling from quenching temperature to $\{(quenching\ temperature + room\ temperature) / 2\}$

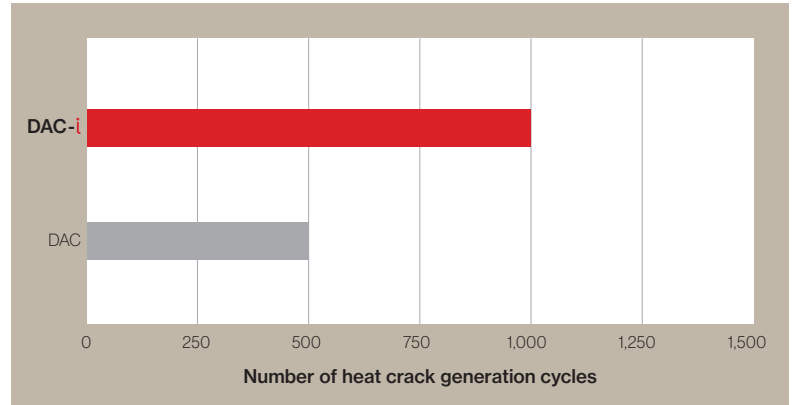


DAC-i has a longer cycle of heat crack generation than DAC, and has good heat crack resistance.

[Heat crack test]

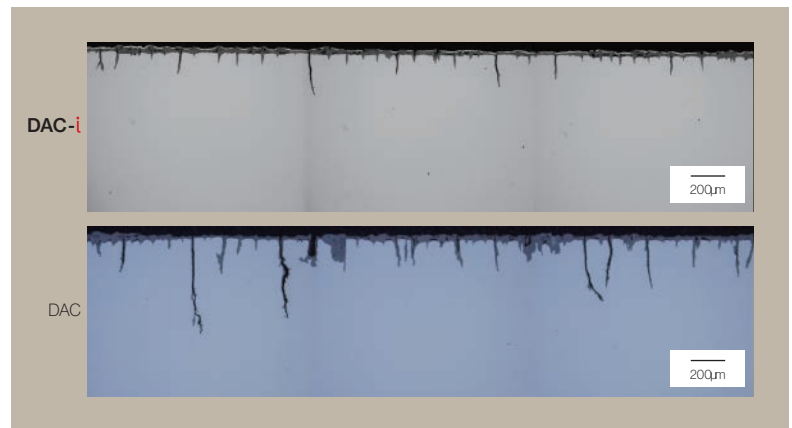


Heat Crack Resistance



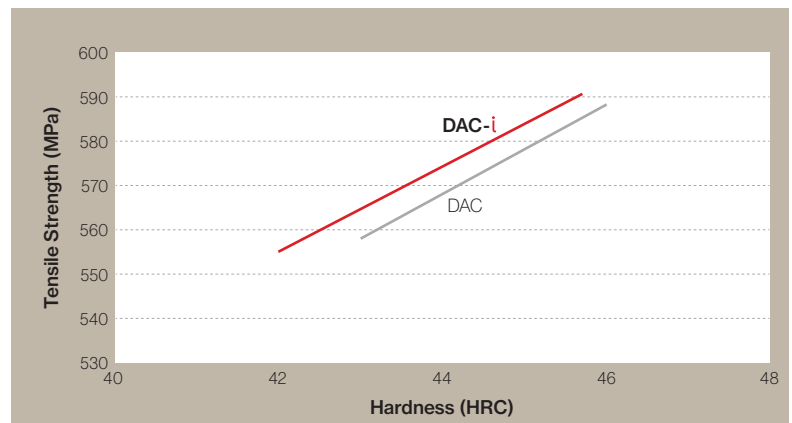
DAC-i is slower in heat crack development than DAC, and has good heat crack resistance.

Heat Crack Resistance (Cross sectional form of crack after 3,000 shots)



DAC-i has a higher strength at elevated temperature than DAC.

Strength at elevated temperature (Tensile strength at 650°C)



(Supplement)

■ Standard Heat Treatment

Quenching: 1,010 ~ 1,030 °C / rapid quenching
Tempering: 550 ~ 640 °C / air cooling

■ Recommended hardness

Small/Medium size dies: 45-52HRC
Large size dies: 42-46HRC

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The contents of this catalog are correct as of March 2019.



Notes about safety

Steel is heavy. Please execute the safety measures to prevent falling or collapse of cargo or sandwiched during transportation or warehousing. Please ensure the safety of workers use the jigs and various protective equipment and follow the applicable laws and ministerial ordinance, ordinances, guidelines, etc. when sawing, cutting, heat treatment, polishing or when using as mould, machine parts, or tooling.