

Offer of e-learning courses

NADCA-207

Introduction into NADCA 207

Course time: 0h17m35s

10.1

NADCA-207

Material Selection and Testing

Course time: 0h42m35s

10.2

NADCA-207

Heat Treatment

Course time: 0h57m18s

10.3

NADCA-207

Dies Design and Manufacturing

Course time: 0h38m26s

10.4

NADCA-207

AM Technologies in NADCA 207

Course time: 0h50m36s

10.5

Do you have problems with the quality of your die casting dies? Are you sure that you and all your employees know how to specify the purchase of steel so that you get the optimal starting properties of the material? And if you get them, do you know how to control them? Are you aware that in order for the material to have the necessary tool life, it must have high controlled toughness? Did you know that Nadca 207 recommends testing all mold inserts produced in Class1 for impact strength, and all inserts, both Class1 and Class2, in the next 9 inspection operations for input material quality?

Are you aware that Nadca 207 does not yet know the concept of Additive Technologies? And if so, isn't the part life of an additively manufactured insert guaranteed? Does it mean anything to you? Did you know that even 3D printed parts need heat treatment and usually HIP (Hot Isostatic Pressing)? Do you know how to prescribe it and are you sure the heat treater knows how to make heat treatment process?

Are you aware of the challenges of designing a die that will have a chance of surviving the high-speed cooling in the gas stream while quenching? You know that you have to quench with minimal cooling rate of 28 C/min, so as not to damage the properties of the material? And do you also know that the designer makes the most mistakes when he designs non-essential parts of the shape on the periphery of the dies, such as clamping grooves, the outlets of cooling channels, holes for crane eyes etc.?

And have you ever had the problem of a customer complaining about a die because the surface developed thermal fatigue cracks sooner than you expected? Or did the part even crack due to high stresses? What are your rights and obligations in terms of the Civil Code? Did you know that tool shops usually fail in court proceedings because they don't realize that in order to determine the causes of damage, it is necessary to know the properties of the input material? And do you have this evidence? Do you work with sample archiving?

Are you aware that you should have the ability to check the heat treatment supplier to ensure that they follow all the rules of Nadca 207 so that your die has the maximum life possible? Do you know how to do it? Do you know what matters most and how to check it? How to actually carry out your customer audit in the heat treatment shop and what do you need to ask? Are you sure you understand what is on the record of the quenching or tempering cycles?

There are a lot of questions, which is why these e-learning courses were created. Both my long-term experience with the application of Nadca 207 and my experience as a forensic expert in the field of metallurgy and heat treatment of metals were put into them.

And do you think it is expensive or is it an inappropriate way to train employees? Regarding the price, a paid license for one course per year means, if you have 10 employees, that you will pay 19 € per employee per year without them having to take any other, external or internal training. At the same time, he can do this training himself at work on a computer, from home, or even on a mobile phone or tablet in bed. And on top of that, you have his certificate with the test result, and you can check it to see if he got anything from the course or not. It seems perfect to me, unfortunately even considering today's time full of various lockdowns and restrictions. Try this and see.

Yours Jiří Stanislav

JST CONSULTANCY

Part 10 Nadca 207 Introduction into Nadca 207

Special Quality Die Steel & Heat Treatment Acceptance Criteria for Die Casting Dies

COI-27 Special Process: Casting System Assessment 2nd Edition

STEEL ACCEPTANCE CRITERIA
VACUUM HEAT TREATMENT
DIE WELDING

AIAG Insight. Expert

Part 10 Nadca 207 Material selection and testing

NADCA GRADE	Material Category	C	Mn	P	S	Si	Cr	Mo	V
G	Evaluation of annealing structure on metallographic Nital 5% etching, and comparison with Nadca								

500x

NADCA #207-2018 Annealed Quality Microstructure Chart - "AS" Rating

Acceptable Unacceptable

Next

Part 10 Nadca 207 Dies design and manufacturing

Class 1

Class 2

Next

Part 10 Nadca 207 Heat Treatment

The cooling rate cannot be measured by overpressure in the furnace but by thermocouples

Next

Part 10 Nadca 207 Additive technologies for die casting dies

CONDENSED FUSION	DIRECT ENERGY DEPOSITION
Hydro Report?	Hydro Report?
Code Book?	Code Book?
Setup Time	Setup Time
Build Time	Build Time
Post-Proc Time	Post-Proc Time
Final Cost	Final Cost
Final Weight	Final Weight

SHEET LAMINATION/BONDING

SHEET LAMINATION/BONDING	HEAT TREATMENT
Hydro Report?	Hydro Report?
Code Book?	Code Book?
Setup Time	Setup Time
Build Time	Build Time
Post-Proc Time	Post-Proc Time
Final Cost	Final Cost
Final Weight	Final Weight

DESIGN / ENGINEERING

YES/NO

Has the customer signed off on the full tool design?

Has a thermal simulation been performed?

Has a thermo-mechanics simulation been performed?

Has an ASR (ASR) been performed?

MECHANICAL CALIBRATION / MAINTENANCE AND RAW MAT.

Calculation of energy source consistency in AS machine

Calculation of energy source positioning in AS machine

Technical energy of material used for the ASR

Rating of accuracy (var. material, user, process)

Final calibration done with full tool component

ASR process done correctly

TOOLING CERTIFICATION FOR DIE CASTING DIE COMPONENTS FABRICATED BY ADDITIVE MANUFACTURING

NADCA

Next

<https://www.jstconsultancy.cz/e-learning/>

