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Co-deformation of an Aluminum Zinc Alloy Change in the Flow Curves of a Superplastic Aluminum-Zinc Alloy With Temperature China Standard: GB/T 14978-2008 Continuously hot-dip aluminum-zinc alloy coated steel sheet and strip Atmospheric Corrosion Behavior of Aluminum-Zinc Alloy-Coated Steel The Aluminum-magnesium-zinc Alloys Thermal Expansion of Aluminum and Various Important Aluminum Alloys Grain Refinement in an Aluminum-zinc Alloy Through Thermal Cycling Superplasticity in an Aluminum - Zinc Alloy National standard for prefinished galvanized and aluminum-zinc alloy steel sheet for residential use Aluminum-zinc Alloy (AZ) Coated Structural Quality Steel Sheet for Steel Deck Scientific papers of the Bureau of Standards Fracture and Creep Behavior of an Aluminum - 20% Zinc Alloy at 500°F Q/BQB 425-2018: Translated English of Chinese Standard. Q/BQB425-2018 Aluminum-zinc Alloy (AZ) Coated Structural Quality Steel Sheet for Steel Deck Efficiency of Solar Bowl Model Using Aluminum-zinc Alloy Coated Steel Based Reflector Prefinished Galvanized and Aluminum-Zinc Alloy Steel Sheet for Residential Use Segregation of Impurities in Zinc-aluminum Alloys and Its Influence on Accuracy of Sampling The Transient Creep Behavior of Aluminum and Aluminum - 1 at % Zinc Alloy Proceedings, International Symposium on Zinc-Aluminum (ZA) Casting Alloys Creep and Other Properties of Extruded Zinc-30 Percent Aluminum Alloys Containing Magnesium Quantitatively Assessing the Service Life of 55 % Aluminum-Zinc Alloy-Coated Steel Standing Seam Roof Systems Galvanized Steel and Aluminum-zinc Alloy Coated Steel Siding, Soffits and Fascia, Prefinished, Residential On the Mechanism of Presipitation in an Aluminum-magnesium-zinc Alloy Q/BQB 425-2014: Translated English of Chinese Standard. Q/BQB425-2014 Using Molten Zinc to Extract Aluminum from Aluminum-silicon Alloys Neutron Irradiation of Pure Metals and Aluminum-zinc Alloys Effects of Weathering of Chromate Passivation Films on Aluminum-Zinc Alloy Coated Sheet Steel GB/T 14978-2008: Translated English of Chinese Standard. (GBT 14978-2008, GB/T14978-2008, GBT14978-2008) Electrolytic Oxidation of Aluminum-magnesium-zinc Alloy HY-43 Productivity Team Report: Zinc and aluminum die casting The Effect of Small Amounts of Magnesium on the Superplastic Behavior of an Aluminum-zinc Alloy Influence of Freezing Rate on the Grain Volume Distribution in Cast Aluminum-zinc Alloy High Strength Wrought Iron Aluminum Alloys Based Upon the Ternary System Aluminum-zinc-magnesium Stress Corrosion Cracking of an Aluminum Zinc Magnesium Alloy Refining Iron-contaminated Zinc by Filtration and Centrifugation MATERIAL - MAGNESIUM - ALUMINUM - ZINC - SACRIFICIAL ANODE. EVALUATIONS IN PRESENCE OF SEA WATER AND CLAD 7075-T6 ALUMINUM

ALLOY. Physical and Metallographic Properties of Copper-Zinc-Aluminum Alloys Containing Small Amounts of Magnesium. Air Service Information Circular. Volume 4, Number 393 An Investigation of the Corrosion Susceptibility of Flame-sprayed and Electric-arc Sprayed Anodic Metal Coatings of Aluminum, Zinc, and an Aluminum-zinc Alloy Effects of Constituent Particles on the Notch-sensitivity and Fatigue-crack-propagation Characteristics of Aluminum-zinc-magnesium Alloys A Study of the Energy Generation of the Zinc Aluminum Alloy in Vivo

An attempt was made to use the aluminum-magnesium-zinc alloy HY-43 as aircraft material and it was found that by adding chromium, the material was suitable for that purpose. To increase its resistance against corrosion, HY-43 is to be anodized. The tests are being continued, but the method is considered acceptable by giving HY-43 the added protective corrosion proof layer. The content that is stipulated in Q/BQB 425-2018 Hot-dip Aluminum-zinc Alloy Coating Steel Sheet and Strip, which was formulated and released by our company, complies with relevant national laws and regulations, and requirements in compulsory standards and relevant industrial policies. In accordance with the stipulated procedure, this Standard was approved and issued by our enterprise legal representative. Products that are produced by our company comply with the various technical requirements stipulated in this Standard. The serial number of this Standard is clearly indicated on product package. Our company undertakes the responsibility for the authenticity, accuracy and legitimacy of the disclosed information, and undertakes all the legal liabilities of consequences triggered by the implementation of this Standard. This Technical Conditions specifies the terms and definitions, classification and code, dimension, shape, technical requirements, inspection and test, packaging, marking and inspection documents of hot-dip aluminum-zinc alloy coated steel plates and steel strips. This Technical Conditions applies to hot-dip aluminum-zinc alloy coated steel plates and steel strips with a thickness of 0.22 mm ~ 2.0 mm produced by Baoshan Iron and Steel Co., Ltd., hereinafter referred to as steel plates and steel strips. The base Al-Zn superplastic alloy was investigated at 250°C to determine the effect of small amounts of magnesium on mechanical properties. Six alloys of nominal composition 0.00, 0.10, 0.25, 0.50, 0.75, and 1.00 weight percent magnesium, constant 78 weight percent zinc, and variable 21 to 22 weight percent aluminum were each tested in tension at strain rates of 0.02, 0.20, and 2.00 in/min to determine the flow stress and elongation at each strain rate for each composition. Superplastic elongation occurred at all three strain rates in the specimens containing no magnesium. The addition of any magnesium content investigated destroyed any significant superplastic deformation and led to intercrystalline fracture of all other test specimens. The intermetallic compound Mg_2Zn_{11} was uniformly distributed throughout the microstructure, limiting plastic deformation. In general, the flow stress was found to increase to a maximum as the magnesium content was increased up to about 0.75 percent, then to start dropping off. At the same time, after the initial drop in elongation due to the change from the superplastic to the intercrystalline fracture mode, the trend in elongation was to decrease slowly with increasing magnesium content. For a given magnesium content, a higher strain rate resulted in a higher value for the flow stress. At the Seventh Symposium on Roofing Research and Standards Development, a new, quantitative method for evaluating service life of a single 55 % aluminum-zinc (Al-Zn) alloy-coated steel low-slope standing seam roof (SSR) system was presented and subsequently published. Using samples from a roof in Denver, CO, the authors utilized laboratory corrosion analysis, together with a visual roof inspection protocol, to predict the total roof service life of a similarly constructed roof when built using today's best practices. In this paper, the authors describe the use of this unique method to further evaluate the total service life of an additional 13 roofs in five different climate zones across the United States, enabling conclusive service life projections based upon empirical data. The site inspections and testing analyzed all critical roof system components. Evaluation methods and protocols set forth criteria for evaluation of the total roof system, including base materials and all ancillary components bearing on total roof system performance and integrity. Included in this analysis is the long-term field performance of butyl sealants in place for up to 35 years. Methods are established to evaluate practical and economic viabilities of capital repair versus replacement following common sense criteria. Definitions are posed for terms such as "end-of-life" and "best practice." Results confirm the validity of this method and conservatively project total roof service life in excess of 60 years for such roofs if installed today in a wide range of environments using today's best practices. Thus a properly installed 55 % Al-Zn alloy-coated steel SSR system does not require replacement during the building's entire service life of 60 years as established by the Leadership in Energy and Environmental Design (LEED) program (v4). Bi-metallic cells consisting of FS-1H magnesium alloy, commercially pure zinc or XA605 aluminum alloy and clad 7075-T6 aluminum alloy were pre pared with anode-cathode area ratios of 1:1 and 1:2 and immersed in sea water for measurements of current density versus time and observations of corrosion damage. The FS-1H magnesium alloy anodes corroded severely themselves and did not prevent pitting of clad 7075-T6 aluminum alloy. The commercially pure zinc and XA605 aluminum alloy anodes corroded slightly and prevented cor rosion of the clad 7075-T6 aluminum alloy. Cur rent densities over a 24-hr period are reported. Recent investigations have demonstrated remarkable ductility in a 20 wt-% aluminum - 80 wt-% zinc alloy. An understanding of the mechanisms responsible for this superplastic behavior could have important applications in other commercial alloy systems. This investigation consists of correlated metallographic examination, X-ray diffraction analysis, and tensile testing of Al-Zn binary alloys of 17, 20, and 23% aluminum at specific stages of treatment. Special attention is focused on the heat evolution which follows quenching, a phenomenon apparently associated with the spontaneous breakdown of the unstable alpha' structure. Of particular interest is the appearance of a disorganized, undefined structure after the heat evolution as evidenced by diffraction analysis. The subsequent organization of this structure and apparent diffusional effects as aging takes place at room temperature is clearly indicated by experimental evidence. The lack of three-dimensional periodicity in space following quenching from the single phase region suggests a strong analogy between the alloys studied and the viscous behavior of glass-like materials. (Author). In some systems, including copper niobium, it has been found that as the scale of the two phases decreases, there is an anomalous increase in strength. Mechanisms of this strengthening have been postulated, but a general theory has yet to be developed. A model system to study the co-deformation of fine scale materials was developed and characterized. An aluminum 18.5at.% zinc alloy was selected and discontinuously precipitated to produce 100% transformation and an interlamellar spacing of 240nm. The material was tested using strain rate jump tests to determine the temperature sensitivity, tensile tested to determine work hardening and the temperature sensitivity, wire drawn to study the effect of large plastic deformation and finally tension compression tested to determine internal stresses. The bulk properties of the two phases are well known allowing for a detailed analysis of the composite properties when combined with the mechanical results. The material showed increased strength above the rule of mixture prediction from bulk properties due to a fine scale microstructure . Although the lamellar material had a much higher strength than the rule of mixtures would predict, the overall strength of the alloy did not approach that of more conventional high strength aluminum alloys. The material was found to be temperature and rate dependent, with an increased work hardening rate as the temperature was decreased. Temperature was found to play a key role in the stress partitioning between the two phases. Temperature dependent relaxation processes lowered the stress partitioning between the hard and soft phases as the temperature was increased. Therefore, stress relaxation must be minimized to maximize the strengthening found in fine scale materials. The influence of the aluminum content of hot-dip aluminum-zinc alloy coatings on their corrosion behavior was studied by means of salt-spray and atmospheric corrosion tests. The objective was to develop an improved aluminum-zinc alloy coating on steel that would be more durable than galvanized coatings and that would be more protective to cut edges and areas of mechanical damage than hot-dip aluminum coatings. The optimum alloy was found to be 55 weight percent aluminum-zinc. This new alloy coating is two to four times as corrosion-resistant as a galvanized coating of similar thickness. Furthermore, for the galvanic protection of cut edges of sheet in some environments, this coating proved to be superior to aluminum coatings. This paper presents a study of the effects of surface chromate passivation treatments on the corrosion rate and appearance of 55% Al-Zn coatings on sheet steel after weathering in an industrial atmosphere for a period of six years. Weight loss measurements were employed to determine corrosion rates, and surface appearance was evaluated by photoelectric reflection meter measurements and visual observations. It was found that increasing amounts of chromium (Iridite 9L6) applied to the surface of 55% Al-Zn coated sheet steel markedly decrease both the corrosion rate of the coating and the rate at which the surface gradually darkens in appearance and loses reflectivity caused by weathering. The bright reflective surfaces observed on six-year-old specimens with 14 mg/m2 chromium on the surface indicate that this level is a suitable minimum for preventing nonuniform weathering appearance problems and for optimizing the corrosion resistance. The applied surface chromium should not exceed about 31 mg/m2 chromium because of yellow surface discoloration at these higher levels. Historical study that discusses use of magnesium in place or iron in aluminum alloy. This Standard specifies the terms and definitions, classification and code, size, appearance, weight, technical requirements, inspection and test as well as package, mark and quality certificate of continuously hot-dip aluminum-zinc alloy coated steel sheet and strip. This Standard specifies the term,definition,classification,designation,dimension,configuration,mass,technical requirement,inspection,test,packaging,marking and quality certification of continuously hot-dip aluminum-zinc alloy coated steel sheet and strip. Products to this Standard,which have a specified thickness within 0,30 mm~3,0 mm for application such as architecture,appliance,electronics,electric and automobile.

- GB T 14978 2008 Translated English Of Chinese Standard GBT 14978 2008 GB T14978 2008 GBT14978 2008
- Electrolytic Oxidation Of Aluminum magnesium zinc Alloy HY 43
- Productivity Team Report Zinc And Aluminum Die Casting
- The Effect Of Small Amounts Of Magnesium On The Superplastic Behavior Of An Aluminum zinc Alloy
- Influence Of Freezing Rate On The Grain Volume Distribution In Cast Aluminum zinc Alloy
- High Strength Wrought Iron Aluminum Alloys Based Upon The Ternary System Aluminum zinc magnesium
- Stress Corrosion Cracking Of An Aluminum Zinc Magnesium Alloy
- Refining Iron contaminated Zinc By Filtration And Centrifugation
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