

# ALUMINUM DOME COVERS

 **WB, the Global Name In Total Dome Tech.®**



# WB produces >>>

## 1. ALUMINUM DOME COVERS



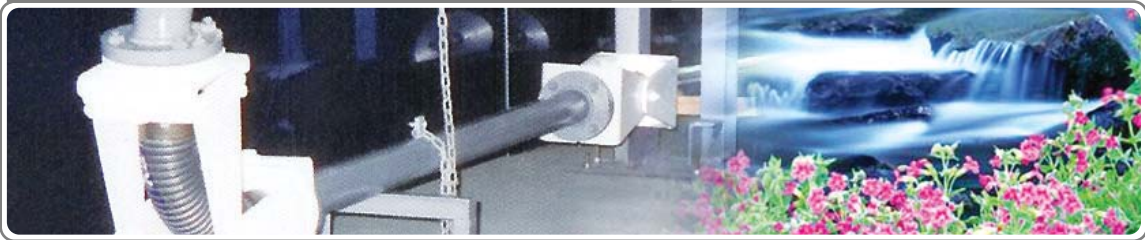
## 2. INTERNAL FLOATING ROOF SYSTEMS



## 3. EXTERNAL FLOATING ROOF SEAL SYSTEMS



## 4. 3+1" FLOATING ROOF DRAIN SYSTEMS



## 5. TANK FITTING PRODUCTS



**WB, World Best Products, World Best Service, World Best Technology**

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## • Aluminum Dome Cover

World Bridge has developed Aluminum Geodesic Dome Cover, Vault Dome Cover and Flat Cover (WORLD DOME®) under extensive research and development programs with local Korean university and its own laboratory test in order to meet growing commitment works from domestic oil refinery companies.

Following to growing demand of Aluminum Dome Cover, we can supply best quality AL. Geodesic Dome Cover for the petroleum storage tank and civil waste water treatment projects, a sludge thickener aeration & sedimentation as well as bulk storage industry.

Our state of the art dome design works are equal or exceed API Appendix 650 G design criteria and it will be the best solution to use World Bridge good quality Internal Floating Roof (WORLD COVER®) systems together with Aluminum dome roof. These will reduce maintenance costs and future operating expense as well as economical solution for new tank's construction and retrofitting works on your existing tanks.

From our twenty(20) years of oil refinery's tankage seals service works and total tank maintenance experience, we have accumulated a lot of optimum solutions to reduce air pollution control(VOC removal system), and save energy & hydrocarbon emission from your tanks.

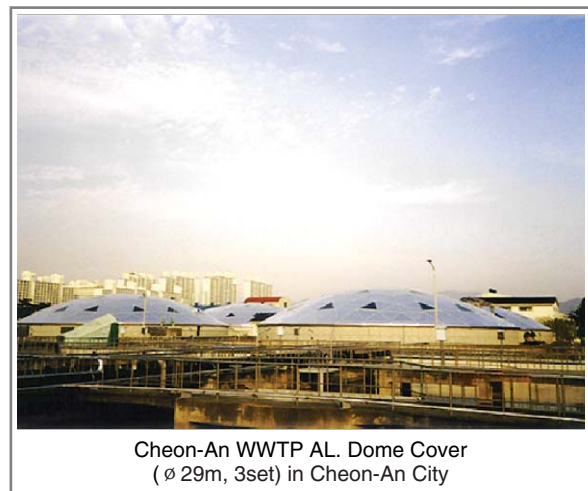
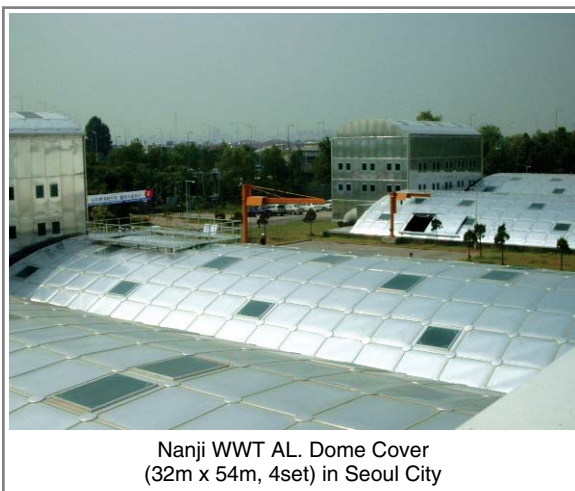
Now we would like to contribute our new technology to keep clean environment and protect water & air pollution contamination throughout world oil & petrochemical industries. We are mostly welcome to discuss your new inquiry of Aluminum Dome Cover and ready to cooperate with your technical department for the economic design of new tank farm projects.

Now we can supply our AL. Dome Cover over diameter 5-100M for oil and petrochemical industry tank and even bigger size tanks are available for the building & architect projects.



WB has installed many different types of AL. Dome Roofs at Guri City WWTP.  
Total twenty six(26) AL. Dome Covers built from year 2003 to 2004

## • Various Types of Aluminum Dome Covers



## • Petroleum & Oil Storage Tank



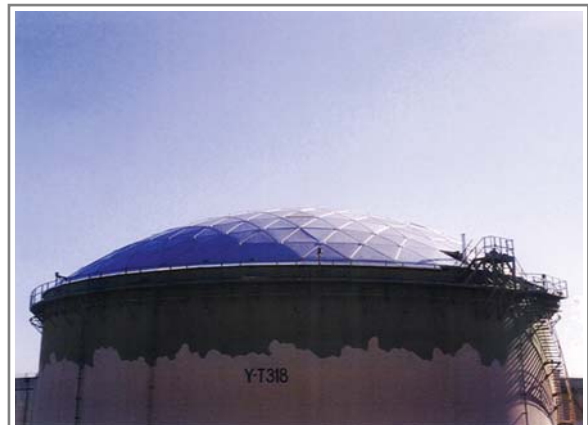
SK Oil Storage Tank AL. Dome Cover  
( $\phi$  25m) in Incheon Port City. 2004.01



Hyundai oil Refinery's BTX Storage Tank AL. Dome Cover  
( $\phi$  40m,  $\phi$  28m) in Incheon Port City



Ground Assembling Works for Oil Storage Tank AL. Dome Cover ( $\phi$  50m) in Ulsan City. 2002.07



SK corp. Oil Storage Tank AL. Dome Cover  
( $\phi$  50m) in Ulsan City



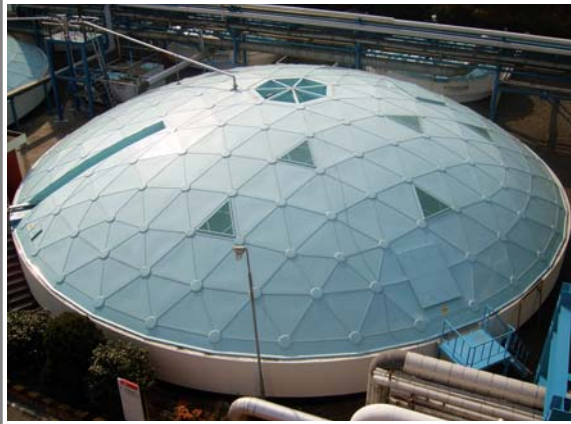
Masan Oil Storage Tank AL. Dome Cover  
( $\phi$  14m) at Masan City in Korea



SK Oil Storage Tank AL. Dome Cover  
( $\phi$  34.5m) in Incheon City



## • Petroleum & Oil Storage Tank



Beautiful Color Painted Dome for Pro-Environmental Treatment Facilities of Local Oil Refinery.



WB, well organized erection crew's final assembling works before Dome lifting works.



Al. Dome for Grip Hoist erection site due to mountain area of oil storage tanks.



Special Dome flashing & Top angle arrangement works are applied for the above tanks.

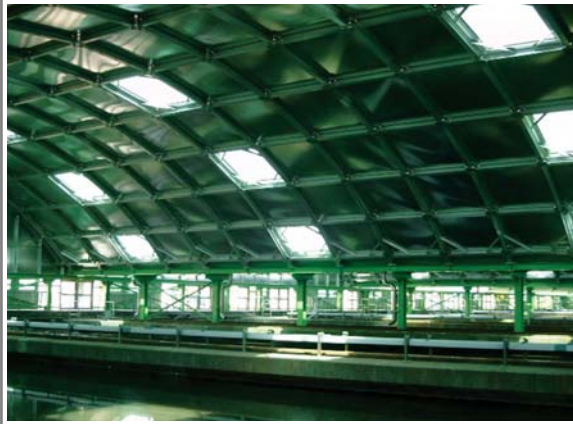


Hyundai Petrochemical complex three(3) x 18m Al. Dome construction site at Daesan, Korea



Al. Dome Roof with stair away for the inspection of roof and others P/V vent products

## • STP & WWTP Environmental Industry



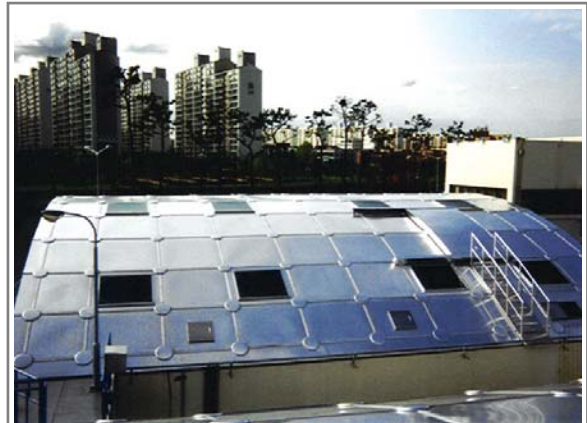
Internal View of Guri 1st Sedimentation Ponds  
WWTP AL. Dome Cover



WWTP AL. Dome Cover, Hopper Room & Conveyor  
Systems (22m x 30m) in Guri City, 2001



Anyang WWTP AL. Dome Cover  
(32m x 35m) in Anyang City in Korea



Samsung Electronics Suwon Factory WWTP  
15mx20m in Suwon, Korea. 2003



Dogae city WWTP AL. Dome Cover  
(14m x 32.5m, 3set) in KangWon Province



Hamyeol STP AL. Dome Cover  
(29m x 30m) in Jeollabuk Province



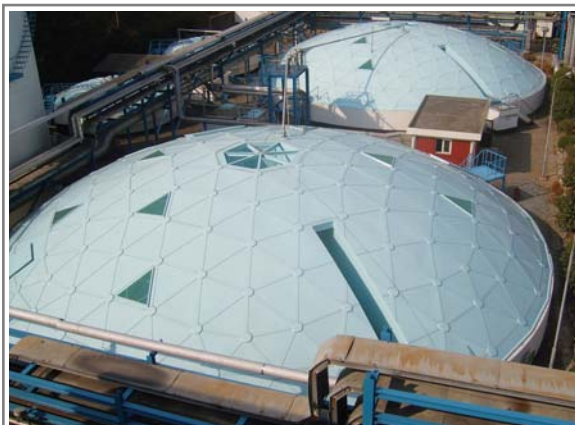
## • STP & WWTP Environmental Industry



Aluminum Dome Cover for WWTP Uam Pump Station in Chung-Ju City (16m x 20m)



Beautiful Shape four(4) AL. Dome Cover  
Jingun Namyangju City, Korea



SK WWTP AL. Dome Cover (ø 25m)  
in Ulsan City



Special Surface Treated AL. Flat Cover for Kimpo City  
WWTP in Korea



AL. Flat Cover for Ulsan City WWTP, Ulsan City is One of  
the Most Industrial City in Korea



Sunghwan WWTP AL. Flat Cover in ChungCheong,  
Province in Korea



## • STP &amp; WWTP Environmental Industry



Circular type AL. Dome Cover for Local City Aeration Pond in Korea. Dia 29m and 14m etc



WWTP AL. Dome Cover for Biological Treatment Ponds(  $\phi$  15m,  $\phi$  10m, 6sets) in Guri City, Korea



Ansan WWTP AL. Flat Cover in Ansan City



Seonam WWTP AL. Dome Cover (24m, 20m, 20m x 59m) in Seoul City



Kimpo WWTP AL. Dome Cover in Kimpo City

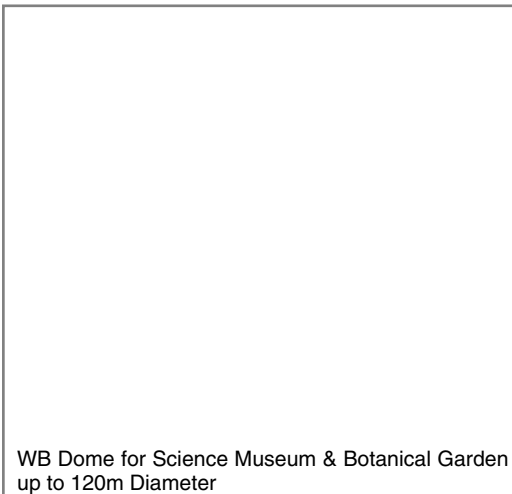


Internal View of Sludge thickener with Aluminum Dome Cover

## • Architecture Industry



WB can design above type dome diameter from 50m to 120m



WB Dome for Science Museum & Botanical Garden  
up to 120m Diameter



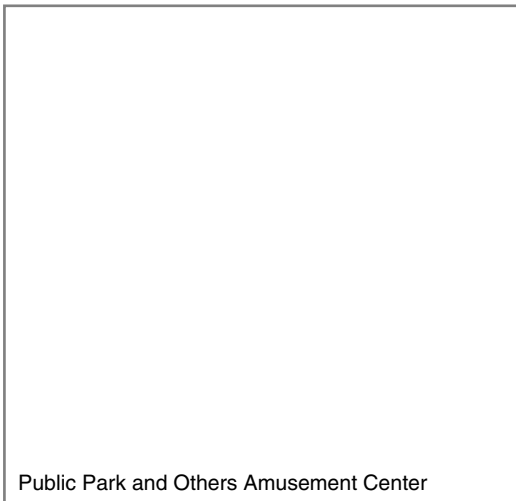
WB Dome for Research & Development Building  
and National Academy House



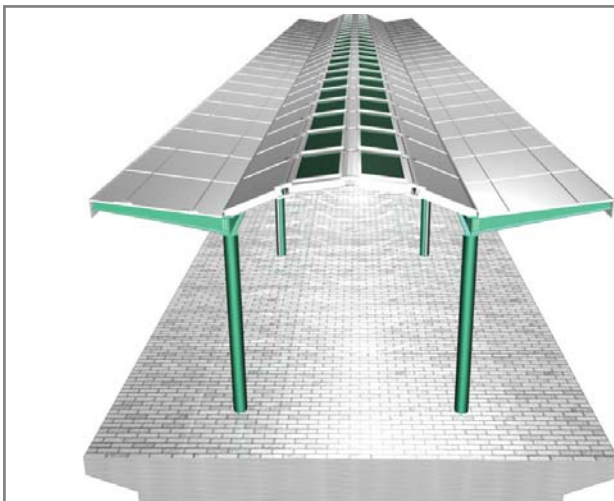
## • Architecture Industry



WB can design these types of dome dia. 50m to 100m dome with good internal interior design works



Public Park and Others Amusement Center



AI. Dome for the Express Train(KTX) Platform and Metro Subway

## • Gymnasium & Architectural Industry



Dome for Express Highway Tollgate



Dome for Oceanic Museum



Dome for Sport Stadium

## • Structural Analysis

To analyze Aluminum Dome and Flat Cover, structures are modeled, material properties, boundary conditions are defined, and get the results using Finite Element Method.

Preprocessing  
Procedure

Input material property, real constant, and basic value. Meshing



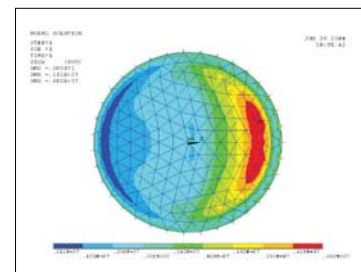
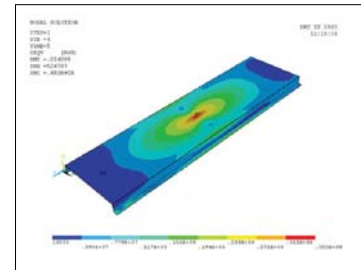
Solution  
Procedure

Define boundary condition, load, and analysis type and method

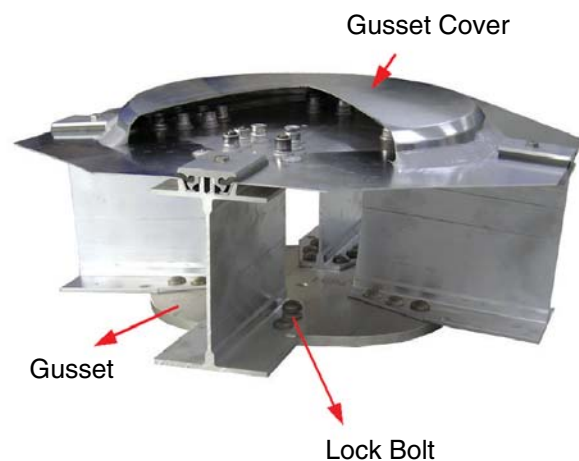
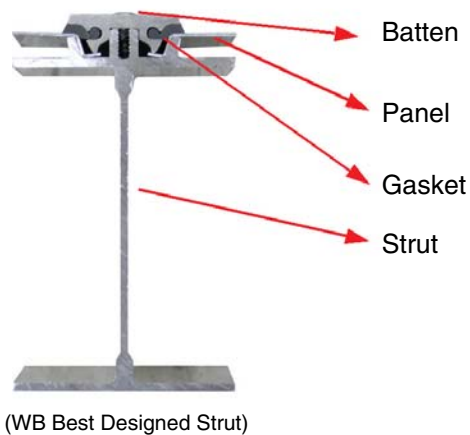


Postprocessing  
Procedure

Get the results of stresses, deflections, reactions



## • Assembly Joint





## • Assembly Procedure

- Unload dome materials near the assembly site.
- Select flat area as an assembly site.
- Distribute struts and gussets in the assembly area ahead of the crew to allow uninterrupted frame assembly.
- Assemble dome frames and attach panels.



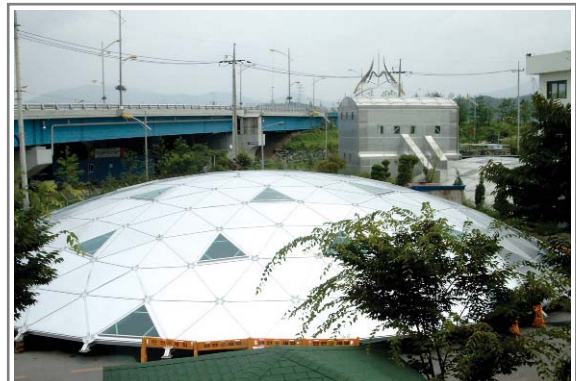
Distributing Materials



Assembling Main Frame



Attaching Panels



Complete Field Assembly

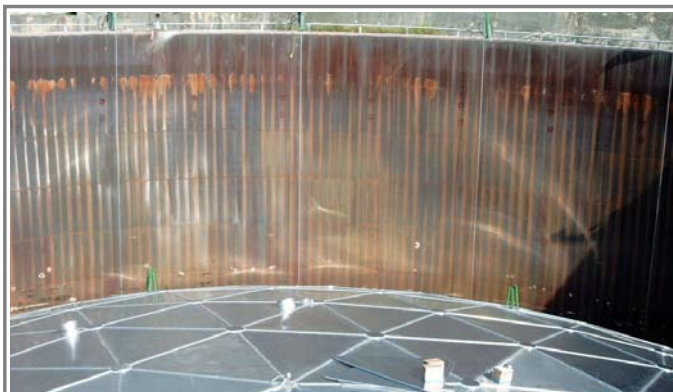


1. 35M Dia. Aluminum Dome is ready to lift for final fitting works.



2. Lifting works by hydraulic crane after complete dome assembling works.

Erection Works of Petroleum Storage Tank Dia. 35m Al.  
Dome Roof for Local Oil Refinery



3. Synchronized lifting systems for the narrow & limited space dome erection site



4. Final dome lifting work on the top of the external floating roof tank

Special Lifting Systems for the Limited Space with no Ground Area for  
Dome Assembling Works



## • The Overviews for Warehouse of Al. Raw material



(WB's Two) X 5 M/T Overhead Cranes and Material Handling Works



Large size strut and Raw Material Storage Area