



Polybutene
Piping Systems Association

Case Study

Playa Bonita Panamá, PA



Thermaflex | Flexalen



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The beautiful Westin Playa Bonita oceanfront resort is situated just outside the city of Panamá, right in front of the Panama Canal. Its breathtaking location offers leisure and business travelers infinity-edge pools, various restaurants and a full featured work environment with meeting spaces and executive lounges.

In order to minimize the operating costs of such energy-intensive facilities, engineering an efficient building complex including reliable and efficient piping systems was crucial for maximizing the return on investment.



Driving smart, green development in Panama's hotel industry

The project construction was initiated by a group of real estate developers in cooperation with the Westin hotel chain. The resort comprises 620 rooms on 23 floors, 6 auditoriums, 4 restaurants, a club house, shopping areas, swimming pools and a furnace room.



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PBPSA member company Thermaflex was selected to supply the insulated piping system made from Polybutene-1 (Polybutylene, PB-1) for the resort complex. Both indoor and outdoor solutions were met with a total of 16 km of Flexalen PB-1 pre-insulated piping system for domestic heating and cooling, and 17 km of the technical ThermaSmart Pro insulation for the chilled water lines. The total project was finalized over a two year period.

Details

The design and installation took place in 4 phases:

PHASE 1

Network design and installation preparation for optimal routes, significantly saving time for Phase 2

PHASE 2

Implementation of pre-assembled and pre-insulated PB-1 pipe sections; due to the light weight, long diameters and flexibility of the Flexalen PB pipes (on coil) Thermaflex was able to make elongated lengths of 25m pipes, as required. Whereas, with traditional pipe materials such as steel pipes there are always length limitations of 5.8 to 11.6 meters.

STATISTICS

- 620 Rooms
 - 23 Floors
 - 6 Auditoriums
 - 4 Restaurants
- supplied with cooling and heating, chilled and hot potable water**
- 0 Incidents recorded to date

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PHASE 3

Connections on-site to system units

PHASE 4

Final pressure testing of the system

Goals

The goal for the project developer was not only to establish a top class hotel in Panama, but also to develop a leading example for innovative green building in the industry. Flexalen insulated PB-1 piping provided a major part for the smart, innovative and sustainable solution delivering the resort's energy needs. Through earlier small-scale projects, the project development group were able to identify Thermaflex as an ideal solutions provider for their needs.

Due to the reliance on unspecialized labor for the network installation and operation, ease of installation and low operating cost were also key considerations for this reference project, and further secured by Thermaflex technical support.

Results

Since the end of the project, Westin's thermal energy networks over a 10 year period have been operating smoothly, without any need for repair or corrections. With all factors taken into account, including material, installation and operational costs, investment reached a similar level compared to that of traditional steel/PUR systems, yet with a much stronger return in savings and problem-free ownership.

Return temperatures of the chilled water turned out much lower than previously accounted for in the engineering design. This means less chiller capacity is needed, resulting in even more energy savings than expected.

DURATION

2 years for the whole construction

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