

To all members of the press, September 8, 2023

## Verification experiment Phase 3 report by Phiten and Y's\*

\*(Operating the largest self-funded rehabilitation center, "Nokosoku rehab center")

# Reporting experimental results showing the effectiveness of "nano METAX COATING" technology in "reducing muscle tones", "recovering from fatigue", and "increasing concentration".

Phiten Co., Ltd. (Headquarters: Kyoto, Japan; President: Yoshihiro Hirata; hereinafter referred to as "Phiten") and Y's, Inc. (Chairman and CEO: Yasuhiro Hayami; hereinafter referred to as "Y's"), one of M3 group operating the medical information website "m3.com" and other websites, and also operates a self-funded rehabilitation facility "Nokosoku rehab center", have completed the verification experiment Phase 3, "Verification experiment on the Efficacy of nano METAX COATING at changes observed in the body" which was being conducted as the third phase of their research partnership. We conducted a usage impression survey on ten patients with hemiplegia due to the aftereffects of a stroke during their rehabilitation, using nano METAX fabric. We observed changes in muscle tones on the affected side using electromyography and found that muscle tones was approximately twice as high when the fabric was not used compared to when it was applied around the upper arm. Additionally, we conducted the same stress load task in spaces coated with and without nano METAX COATING on four participants, assessing recovery from stress and concentration using Holter electrocardiography. The results indicated quicker recovery from mental stress in the nano METAX COATING space, and higher levels of concentration on tasks within the designated time frame. In contrast, stress levels increased after task completion in the non-nano METAX COATING space, while they decreased in the nano METAX COATING space.

### **Phiten's latest technology: nano METAX COATING**

METAX is the material which disperses various nanoscopic metal particles such as Titanium, Gold and Palladium in water by using Phiten's water-soluble metal technology. Based on METAX, a water-soluble mixture of various metals, it contains the smallest nano-level particles in Phiten's history. By using a mist-like form of Phiten's technology, it can be sprayed onto fabrics or sprayed into spaces such as rooms and cars. This is Phiten's highest level of technology, expanding its versatility and enabling the provision of new services.

\*Detailed description web page: <https://en.phiten.com/technology/>

### **[Summary of Verification experiment]**

#### **Verification experiment on the Efficacy of nano METAX COATING at changes observed in the body**

- **Purpose:** Clarifying the effects of Phiten's nano METAX COATING technology on living organisms in two ways.
- **Investigator:** Phiten Co., Ltd / Y's, Inc.
- **Method:** Field investigation/Verification data analysis and statistical processing, carry out consideration based on it.

#### **1. Fabrics with nano METAX COATING**

<Hypothesis> Fabrics with nano METAX COATING reduce muscle tones in stroke survivors and improve self-care.

<Subjects> 10 people with residual effects of stroke.

<Method> Comparison of nano METAX COATING fabric with and without contact on the subject's paralyzed upper limb.

The elbow joint on the paralyzed side was flexed twice, and the surface EMG was measured before and after the flexion with as little force as possible to check for changes in muscle tones.



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Exclusion criteria:

- Persons receiving treatment or requiring ongoing treatment due to organic orthopedic disease or trauma
- Persons being treated for functional painful diseases such as fibromyalgia
- Persons with concomitant cardiac or respiratory dysfunctions, which are associated with systemic muscle hypertonia.
- Smokers

<Methods> Comparison in recovery and concentration in nano METAX COATING space and non-nano METAX COATING.

The same space was used except with and without nano METAX COATING. LF/HF was measured with a Holter ECG.

In recovery, 10 minutes of stress tasks and 10 minutes of recovery in a set of three different tasks.

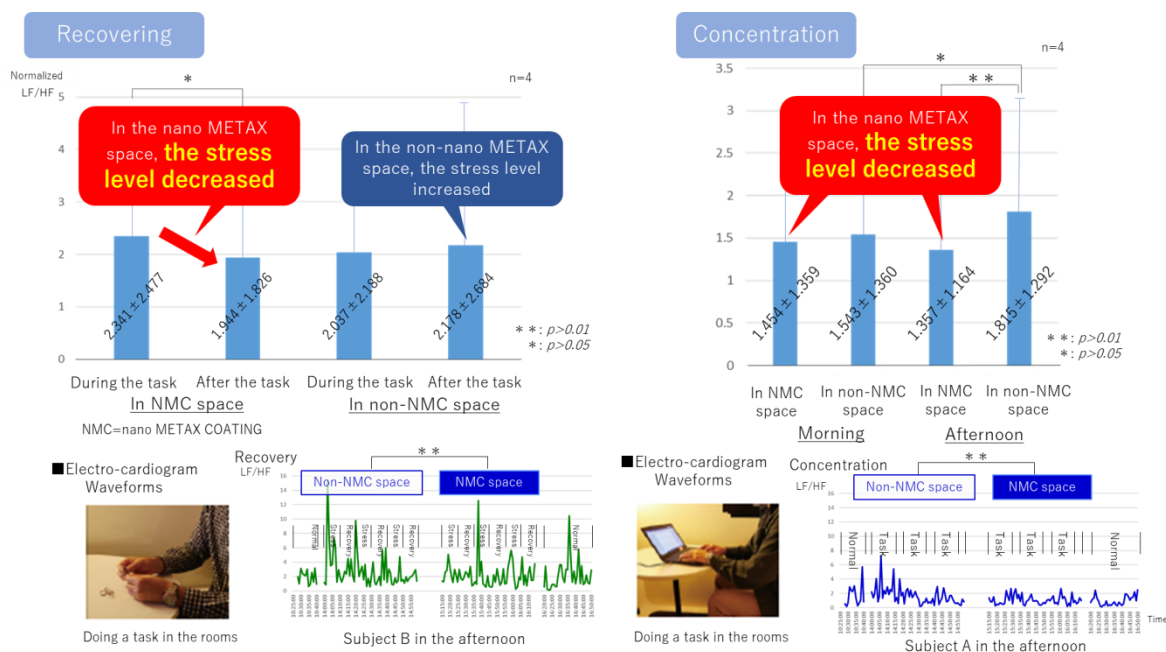
<Period> 15th May (Mon) to 23rd May (Tue), 2023.

<Results> (Extract)

The nano METAX COATING space was found to be effective in recovering from fatigue and increasing concentration.

Four subjects underwent the same stress-loading task in a space with and without nano METAX COATING, and the results were compared with those of a Holter electrocardiogram.

The results showed that the subjects recovered from stress/fatigue and improved their ability to concentrate in the nano METAX COATING space.



Comment from Masumi Tsuruno, Physical therapist at Nokosoku rehabilitation center & Tokyo Ariake Medical University  
Lecturer

About nano METAX COATING for living spaces

We examined the effects of nano METAX COATING space from two perspectives - changes from a state under mental stress, and the status of certain tasks. We prepared identical spaces, aside from the presence or absence of nano METAX COATING and switched the rooms in the morning and afternoon while performing various tasks. We measured LF/HF, an indicator of the autonomic nervous enlightenment system, using a Holter electrocardiogram. We didn't inform the participants whether the space was coated with nano METAX or not. As a result, in the nano METAX COATING spaces, recovery from mental stress was more manageable and, the ability to focus on tasks within a specified timeframe was confirmed. In particular, the ease of recovery from fatigue and improved concentration on complex tasks were

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significantly apparent. As such, we recommend nano METAX COATING for bedrooms, living rooms, bathrooms, and toilets aiming to promote recovery from fatigue or places where concentration required, such as studies or study rooms.

### <Company Profile>

Company Name: Phi ten Co., Ltd. (URL: <https://www.phiten.com/>)  
Location: 678, Tearaimizu-cho, Karasuma-dori Nishikikoji-kado, Nakagyo-ku, Kyoto-shi, Kyoto  
Established: October 4, 1983  
Representative name: President, Yoshihiro Hirata  
Business description: Manufacture and sale of cosmetics, quasi-drugs and medical equipment, Manufacture and sale of sports-related products, health foods, health goods, etc.,

#### Real estate business

Company Name: Y's, Inc. (URL: <https://ys-j.co.jp/>)  
Location: 10th floor, Akasaka Intercity, 1-11-44 Akasaka, Minato-ku, Tokyo 107-0052  
Established: February 4, 2014  
Representative name: Chairman and CEO, Yasuhiro Hayami  
Business description: Rehabilitation business Operation of " Nokosoku rehab center ",  
a rehabilitation facility specializing in cerebrovascular diseases  
B to B business Rehabilitation Product Development Consulting, Rehabilitation Facility Consulting,  
Digital Content Services, Rehabilitation Training Services

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