

IWT 140993



Groen Bouwen

Octrooi-onderzoek

Datum 28/10/2016
Auteurs CTB



Contents

Inleiding	3
Octrooien.....	3
Octrooien zoeken	3
Relevante octrooien	3
Grondgebonden zonder klimhulp	4
Grondgebonden met klimhulp	4
Hydrocultuur	4
Aeroponics.....	4
Mineraal substraat/dik.....	4
Textile/dun	6
Organisch substraat.....	6
In bakken / dik	6
In textiel / dun	9
Substraat	9
Algemene opmerking	9

Inleiding

In dit verslag wordt de huidige stand van zaken ivm octrooien gerelateerd aan groen bouwen en meer specifiek rond groene gevels samengevat. Het rapport situeert de octrooi klasse, relevantie van de verzamelde werken en de mogelijkheid om vrij in dit domein ontwikkelingen door te voeren in België (FTO).

Octrooien

Octrooien of patenten verlenen een negatief recht van max 20 jaar om een ontwikkeling op de markt te brengen. De eigenaar dient daartoe een document dat de uitvinding beschrijft in bij de patent organisatie. De ontwikkeling wordt publiek gemaakt en na evaluatie van 'nieuwheid', 'werkzaamheid' en 'maakbaarheid' wordt de patentaanvraag al dan niet aanvaard en een nummer toegekend. In elk land waar men de ontwikkeling wil beschermen moet een afzonderlijke aanvraag ingediend te worden en na betaling van een bijdrage wordt de ontwikkeling voor 1 jaar beschermd in het land van aanvraag.

Octrooien worden in klassen ingedeeld (International Patent Classification (IPC) system) en de voor GroenBouwen relevante klassen zijn landbouw gerelateerde IPC klasse A01G-9 (Cultivation of flowers, vegetables or rice in receptacles, forcing-frames or greenhouses) en A01G-31 (Hydroponics; Cultivation without soil). Gezien de landbouwfocus zijn vele van deze patenten gericht op plantproductie en minder op sierteeltsystemen.

Octrooien zoeken

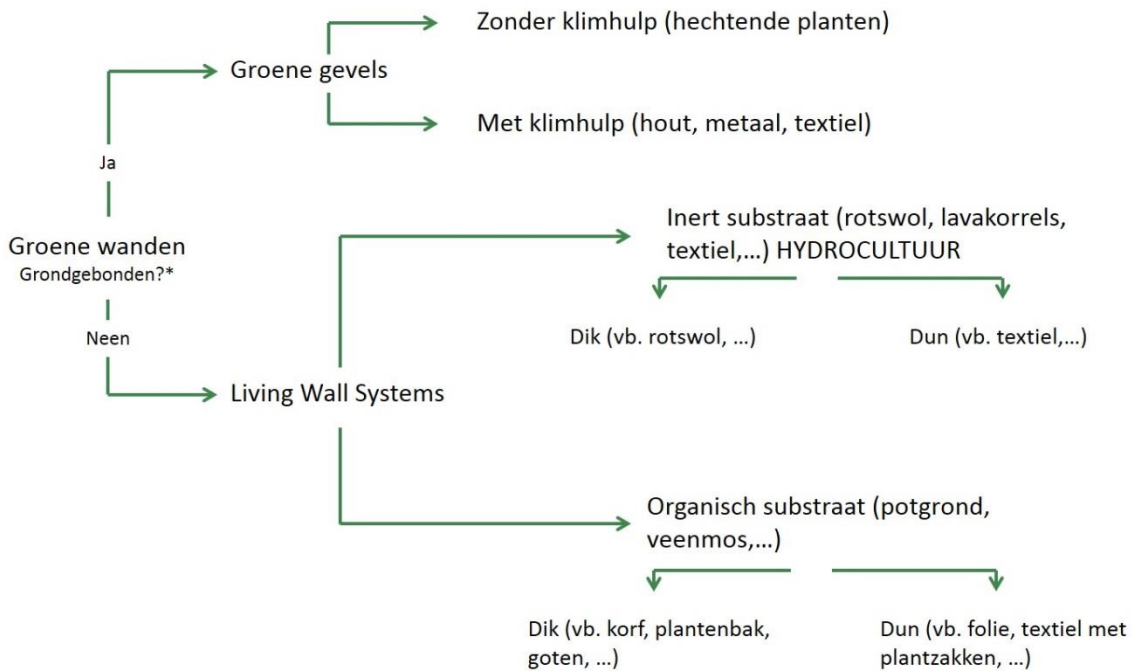
Voor dit project wordt gebruik gemaakt van het ORBIT.com online patent zoekmachine en beheer tool. Een gratis alternatief is Espacenet (<https://worldwide.espacenet.com/>). Om de octrooien te beperken werden volgende zoektermen opgegeven:

- Titel of abstract bevat 'wall' or 'vertical'
- Classificatie IPC A01G-9 or A01G-31
- Legal status: 'alive'
- Patent authorities: WO or EP

Deze zoekopdracht levert 643 hits op (18/10/2016) die die FTO afbakenen. Niet alle documenten zijn effectief goedgekeurd, maar de kans bestaat dat dit binnenkort wel kan. Eigen ideeën die mogelijks in conflict zijn met de hier vermelde patenten worden best niet op de markt gebracht in België.

Relevante octrooien

De voorgestelde zoekopdracht levert niet enkel relevante documenten op met betrekking tot het GroeneBouwen project. Hierna volgt een selectie van de volgens ons meest relevante octrooien (134), opgedeeld volgens de boomstructuur die in het project werd aangenomen.



*Grondgebonden? ja: meestal geen irrigatiesysteem
neen: meestal wel irrigatiesysteem

Grondgebonden zonder klimhulp

In deze klasse kunnen geen octrooien worden verleend. Men plant gewoon een klimplant voor een gevel, en de plant vindt zelf haar weg. Dit is dus niet van toepassing voor het octrooionderzoek.

Grondgebonden met klimhulp

[WO201161209](#) Green wall and related method for encouraging the anchoring of plants
AGC FLAT GLASS GLASS YUROPPU EJISHI

[EP-823987](#) Ornamental stake and arrangement for down pipes
GILLET ROGER

[EP2767156](#) A method to cut wires grown over with plants in a crop wire hoisting system
and an apparatus for applying the method
RUUDVA

[NL1022082](#) System of modules and module as part of this system
BOOIMAN HENDERIK

Hydrocultuur

Aeroponics

In deze toepassing wordt een nutriëntenmengsel verneveld rond de plantwortels.

[WO201619157](#) Vertical Aeroponic Plant Growing Enclosure with Support Structure
INDOOR FARMS OF AMERICA

[WO2015123725](#) Vertical plant cultivation system
HORTICULTURAL INNOVATIONS

[WO200044220](#) Ultra-high-density plant vertical mist hydroponic system and raising panel
SEIICHI MARUMOTO

[GB201108138](#) Aeroponics system
AIRFARM

[WO2008151391](#) Container for growing plants and carrier therefor
TRENTCOM

Mineraal substraat/dik

[MX2012008531](#) Vertical hanging unit in the form of bags for the hydroponic cultivation of

plants, and a panel of vertical hanging units in the form of bags for hydroponic cultivation
MARTINEZ RUANOVA LUIS HÉCTOR ALBERTO
[MX2012011572](#) Double vertical hanging unit, in the form of pouches, for hydroponic plant cultivation, panel of double vertical hanging units, in pouch form, and greenhouse structure
LUIS HECTOR ALBERTO MARTINEZ RUANOVA MARTINEZ RUANOVA
LUIS HECTOR ALBERTO MARTINEZ RUANOVA LUIS MARTINEZ RUANOVA LUIS HÉCTOR ALBERTO
[US20030089037](#) Plant growth unit
WARE LARRY AUSTEN
[WO201151619](#) Device for a vertical or angled arrangement of the hydroponic cultivation of plants
MODULOGREEN VERTICAL SOLUTIONS MODULOGREEN VERTIKAL SOLUTIONS SOLUBLE SION GLYN DURO MODEL VEL TIKAL
[FI-125667](#) Multi-story farm having vertical growing assemblies
ANTER MTU FRIEDRICHSHAFEN RUFIOUS
[WO2015185801](#) Vertical planter for growing plants
3GREN
[GB201507041](#) High density soilless plant growth system and method
E SMARTS GLOBAL LICENSING SMARTS GLOBAL LICENSING E
[GB201507039](#) Soilless plant cultivating container
E SMARTS GLOBAL LICENSING SMARTS GLOBAL LICENSING E
[WO201441243](#) A plant wall and a method for recycling nutrients in the plant wall
GREEN HOUSE EFFECT
[US20160066525](#) Hydroponic garden system
RATE DEALS D B A EARTH PRIME RATE DEALS D EARTH PRIME
[US20110023361](#) Vertical hydroponic plant production apparatus
UNIVERSITY OF WYOMING
[DE102015004112](#) Column element for a device for the vertical cultivation of plants
MANTICORE
[WO201681234](#) Vertical hydroponic tower array fixture system
UNIVERSITY OF WYOMING
[CA2836409](#) Hydroponic system
RILEY BRITTA
[WO201157212](#) Modules for growing plants
BIOTECHURE IP CHAR BIOTECH LIABILITY
[GB201316537](#) Hydroponic growing system, apparatus and method
H2O GANICS H2O GANICS
[WO200064241](#) Apparatus or installation and method for hydroponic cultivation of plants
FRUITWISE HYDROPONICS SYSTEMS JAMES QUINTON CAMERON DICK
[WO9856236](#) Plant cultivation method and apparatus
& T HARVEST HARVEST II T HAABEST
[AT-507205](#) Covering for a wall
HAAS KARL SASCHA HAAS KARL SASCHA MAG HAAS WOLFGANG
HAAS WOLFGANG ING
© QUESTEL 1
[JP5495198](#) Tubular greening unit
NASSUN E
[US20150223418](#) Light-weight modular adjustable vertical hydroponic growing system and method
COLLINS FRED HERTEL DON
[WO201613989](#) Vertical planting system
THAILAND S ADVANCED INFO GREEN TECHNOLOGY
[EP2272326](#) Plant growing device
HUANG BO-HAN HUANG BO-HAO HUANG CHEN-CHENG HUANG PAOHAN
HUANG PAO-HAO HUANG ZHEN-ZHENG
[CN101524038](#) Integrated vertical greening module
NANJING LU SE ZU HE ENVIRONMEN NANJING LU SE ZU HE ENVIRONMENTAL PROT NANJING LUSE ENVIRONMENT PROT TECHNOLOGY WAVING GREEN UNION IS HOLDING
[FR2763789](#) Assembly for forming an horticultural wall
FRANCK FRANCK & CRAVANT
[WO2016117884](#) Vertically hanging vegetation apparatus
KEE SEUNG CHEOL
[WO201234652](#) Planting system for installing vegetation on vertical and pitched surfaces
ZINCO
[NL2009384](#) Vegetated panel and associated vegetated wall

SAINT GOBAIN CULTIL SAINT GOGAIN CULTILENE
[US20150351329](#) System and method for cultivating plants
RACKREIT
[NL2009383](#) Vegetated panel and associated vegetated wall
SAINT GOBAIN CULTIL SAINT GOBAIN CULTILENE SAINT GOGAIN
CULTILENE
[WO201234651](#) Planting system for installing vegetation on vertical and pitched surfaces
ZINCO
[SE201300559](#) Means for vertical cultivation of plants and method of providing such means
TORLE PATRIC
[EP2630861](#) Wall element for a green facade of a building and method for manufacturing
such a wall element
BBD INTERNATIONAL
[AT-509190](#) Plantable façade system
GLANZ MARKUS LICHTBLAU ANDREAS SCHMIDHAMMER ALEXANDER
ZECHA JOERG
[WO2014200192](#) Air cleaner using plants
GREEN INFRA
[DE202014002595](#) Component and system for vertical greening
ADLER BERTHOLD FRAUNHOFER
[WO201545087](#) Wall-greening air purification device
DAIWA HOUSE INDUSTRY
[DE29909177](#) Greening of roofs, façades and walls
PINK ELISABETH PINK HANS PINK PAUL PINK PETER
[CA2904208](#) Pressurized growing air system for vertical and horizontal planting systems
PRESCOTT MARK R
[WO2006137544](#) Moss plant cultivation substrate and method of growing moss plant, etc.
therewith
IL SONG CODRA Mitsuharu Shimura
[EP1500883](#) Air conditioning system and method for indoor spaces
H & W BEWAESSERUNGS

Textile/dun

[2923139](#) System for growing plants on an approximately vertical surface
JARDINS DE BABYLONE
[EP2428110](#) Soilless plant cultivation device for a green wall
GAIA EAU CREATION
[WO2014131921](#) System for cultivating plants on vertical or inclined planes
UNIVERSIDAD DE SEVILLA
[WO2011137073](#) Multilayer assembly of fluid permeable geomatrix material for use in
vegetated eco-system
CGT COLUMBIA GREEN TECHNOLOGIES
[GB200420609](#) Support for vertical hydroponic plants matrix
AIR QUALITY SOLUTIONS NEDLAW LIVING WALLS
[SE201300078](#) Plant wall
THUNBORG PETER
[WO201014600](#) Plant growing assembly
CONLEY ROSE CONLEY ROSE COPY POLICY CONLEY ROSE P C
MALCOLM GLEN KERTZ URBAN PRODUCE
[WO2012168509](#) Modular system having a reduced thickness and consisting of a flexible
material for cultivating vegetation on vertical surfaces
UNIVERSIDAD DE SEVILLA
[WO201150778](#) Component covered with vegetation for horizontal, angled, and/or vertical
surfaces of buildings
XF TECHNOLOGIES XF TECHNOLOGIES B V
[US20110197504](#) Living roof and wall systems using cultivated mineral wool mats to support
BLAVEs, methods of cultivation and inoculants therefor
ARCHIPHYTE
[IT2010BG0035](#) Stabilized natural lichen support for maintenance-free vertical gardens
FERONE GIUSEPPINA LAPROCINA STEFANO

Organisch substraat

In bakken / dik

[WO2014147523](#) Modular wall system for vertical gardens
MODIWALL SMIT P

WO201267356 Pot for vertical wall, and multi-filter and port support frame used therefor
GREEN INFRA

WO2015189440 Modular container and modular irrigation system
NEW GARDEN SYSTEM

WO200525296 Modular structure which is used to fit out an essentially-vertical wall of a building element and which is used to house ornamental plants
GREENWALL

CA2716111 Wall planting system
HO TECHNOLOGY HORTECH

WO2014167576 Vertical garden system
KUMARPAL SHAH

ES2434842 Vertical landscaping system
PLATA ORTE JOSE IGNACIO PLATA ORTE JOSÉ IGNACIO

WO201158951 Planting container
SUNTORY

FR2924897 Live plant box
ARE THOMAS FLEURS PAUL LOW MI THOMAS FLEURS

WO201083549 Post or wall mounted stackable plant pot
JOHN KEATS

CN101554125 Vertical greening module
NANJING GREEN COMBINATION ENVIRONMENT PROT NANJING LU SE ZU HE ENVIRONMEN NANJING LU SE ZU HE ENVIRONMENTAL PROT

MX2013010902 Wall planting system
HORTECH

ES2351331 Improved modular system for vertical gardens based on self-supporting modules
MONTERO PASCUAL JOSE LUIS

JP5223025 Wall-surface flower bed structure and method for forming wall-surface flower bed
ERIKA MIYAZAKI ITO TAKAMI ITO Takami MIJADZAKI EHRICA MITSUYO OOKAWA MIYAZAKI ERIKA MIYAZAKI Erika OKAWA MITSUYO OOKAWA MITSUJO OOKAWA MITSUYO OOKAWA Mitsuyo TAKAMI ITO

WO2016105222 Method and system for vertical cultivation of plants in plant pots, a device for vertical cultivation of plants in plant pots and a special plant pot
EASY FUNDS SP Z O O

CA2911494 Assembly for vertical plant array
NELSON MARK

WO201310216 Vertical garden systems and methods
VERTICALGARDENUSA COM WALLGARDEN

TWM464997 Light green wall structure
OU CHIEN-TSUNG OU CHIEN-TSUNG OU Chien Tsung OU Chientsung OU JIAN-ZONG OU JIANZONG

PL2013403291 Set for creating walls with decorative plants
GARBAREK PAWEL GARBAREK PAWE

EP2885963 Vertical garden
© QUESTEL 1
NEMEC S R O

WO201369151 Method for producing wall-surface greening material
CHUGOKU ELECTRIC POWER

ES2307453 System for creating landscaped areas on walls
ALMENARA DIAZ EDUARDO

CN201234482U Vertical plant culture frame
HSIEH TSUNG-CHIN ZONGQIN XIE

WO201195570 Panel for a green wall
SEMINCKX MICHEL

CA2780360 Modular walls with incorporated planters
DIRTT ENVIRONMENTAL SOLUTIONS

CA2942416 Downpipe assembly
BAX HEATH

DK-177900 Wall module system, a method of cultivating plants, and use of a wall module system for cultivating plants
GRØNNING PLANTEMILJØ NATURAL GREENWALLS

US20070079553 Multipurpose planting base
CHIKO NIHON CHIKO NIPPON CHIKO

EP2692225 Green wall structure and green wall comprising said structure
CANEVAFLOR

AU2003902454 Apparatus for growing plants
ANTOON HOLL HOLL & SON HOLL A

WO201210792 Green wall having a covering, and covering element for such a wall
CANEVAFLOR

DE102014002295 Vertical garden system and planting trough
HOLZAMMER KUNSTSTOFFTECHNIK & SENGENTHALER HOLZ &
HEIMWERKERBEDARF

FR3003430 Construction element for erecting a modular green wall
CANEVAFLOR

CN102550321 Self-infiltration irrigation, assemblable, obliquely inserted modular
multifunctional wall greening apparatus
SHANGHAI INATURE TECHNOLOGY SHANGHAI YINE GREEN
TECHNOLOGY UNIVERSITY UNITED ARAB EMIRATES

WO201687687 Modular planter
JANECOSYSTEMS

WO2006134938 Wall surface greening system for building
MINORU INDUSTRY SHIMIZU CONSTRUCTION

EP2441323 Container for plants
COCHET M PATRICK COCHET PATRICK

CN103141328 Plant wall
YE JIANFENG

WO201082717 Fabricated cultivation box and fabricated landscape architecture system
CHO HEUNG YEUL CHO Heung-Yeul;

WO201009505 Green wall system
ALAN LEE ALAN SIAN GHEE LEE;

EP2193708 Container for vegetated wall
ACAULIA

WO200714993 Vegetated wall and constitutive elements thereof
GREENWALL

FR2968891 Vegetative wall with internal air circulation
CANEVAFLOR KANUBAFURORU

KR101249812 Plant cultivation apparatus fixed to wall
POSI

FR2924896 Plant wall
KERVENKA PIERRE ANDRE ROBERT

HK1161513 Assembly framework and landscaping wall adopting the assembly framework
© QUESTEL 2
GREEN ENVIRONMENTAL PROT HOLDING INNOGREEN
ENVIRONMENTAL HOLDINGS

EP2946655 Device for vertical greening
TRÖSCH CHRISTIAN

CA2910465 Apparatus for maintaining plants on non-horizontal surfaces
LACAVERA MARYROSE

WO201400062 Flower box
D & M DEPOT

CA2937824 A stackable planting system layer quarter section
KEATS JOHN

WO2016146964 Wall component and track system for forming a wall for growing plants.
BIOTECHTURE

CN103371071 Planting device
SUNTORY

EP2702863 Plant module
WÜSTER HEINRICH ING

IT2010TO0283 Flower box with vertical extension
IL CANTIERE

WO201497660 Wall surface greening and atmosphere purification device and system using
same
DAIWA HOUSE INDUSTRY

EP3011826 A green wall and rainwater drainage module and assembly, and a method of
draining rainwater
BYGGROS

FR2872381 Structure for vegetated wall
CANEVAFLOR CANEVAFLOR SOC PAR ACTIONS SIM KANUBAFURORU
KANVAFLOR

CN104221758 Staggeredly stacked flowerpot and three-dimensional greening wall formed
by staggeredly combining flowerpots
SHANGHAI WORTH GARDEN SHANGHAI WORTH GARDEN PRODUCTS

CN101748823 Ecological greening wall and construction method thereof
CHANG Yushun ZHANG ZHANG YU SHUN

IT2009BS0222 Vase unit for a vertical garden and system comprising such a vase unit

CO A R

[KR101405245](#) Wall-mounted device for plant growth
JEONG SEUNG BIN JEONG SEUNGBIN

[CN203327607U](#) Staggered stacked type flowerpot, three-dimensional green wall and screen
formed by stacking and combination of same
SHANGHAI WORTH GARDEN PRODUCTS

[WO201193625](#) Vertical wall and high-slope afforestation method and aggregate container,
shelf assembly and water supply device used thereto
DAESAN L & C DAESAN L & C DE SAN L & SEA GREEN INFRA GREEN
INFRASTRUCTURE

[BR198802729U](#) Wall-mounted set of ornamental plant pots
GISELENE MEDEIROS MESIARA GISELENE Medeiros Mesiara; MESIARA
GISELENE

[DE102010018586](#) Method for producing a structure and structure comprising technical and plant
components
HELIX PFLANZEN

[EP2530202](#) Structure comprising a gabion wall
SNCF SNCF RESEAU

[WO201304950](#) Soundproofing green wall structure
CANEVAFLOR

[WO201230087](#) Eco-friendly wall and fence
GU JA SUN KOO JA SUN

[WO2008140244](#) Constructing apparatus of building wall and the constructing method
SONG JEONG HAWN SONG JUNG WHAN

In textiel / dun

[WO201025837](#) Greening module, equipment module, and cassette module for a modular
construction for greening vertical or slanted walls
HELIX PFLANZEN

[DE102013005250](#) Planting mat
WEGENAST KLAUS

[WO201485944](#) Planting system
ZWIMPFER MICHAEL

Substraat

Eén octrooi behandelt een specifiek substraat voor vertikaal groen:

[EP-998848](#) Plant substrate, particularly made from natural fibres with substantially
anisotropic fibre layers
INNOVATION PRO TERRA

Algemene opmerking

Uit de beschrijving van de octrooien is het niet altijd mogelijk om het gebruikte substraat te achterhalen. Wanneer niet expliciet hydrocultuur of nutriëntenrijk voedingswater vermeldt wordt in het patent gaan we ervan uit dat het gaat om een organisch substraat. Ook het onderscheid tussen een textiel gebaseerde, dunne opbouw en het gebruik van textiel als 'liner' in een dikke opbouw is soms moeilijk op te maken. De bovenstaande indeling is dan ook louter ter info.

De abstract en afbeelding van de representatieve documenten zijn in bijlage beschikbaar.