

KIPO's Practices on Processing of 3D Models

Workshop on IP Data in 3D Models and Images | May 14, 2025 | Geneva

KIPO's Practices on Processing of 3D Models

Background

❖ Context of Industrial Design Practice

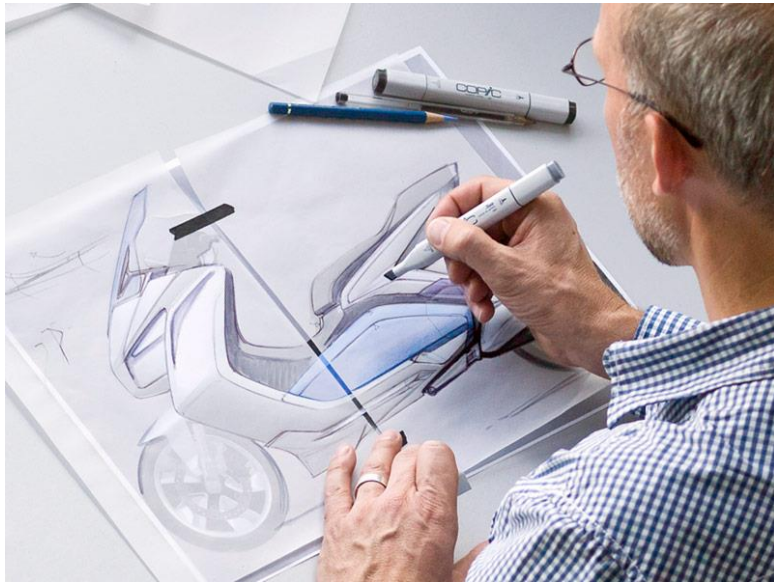


Image courtesy: carbodydesign.com

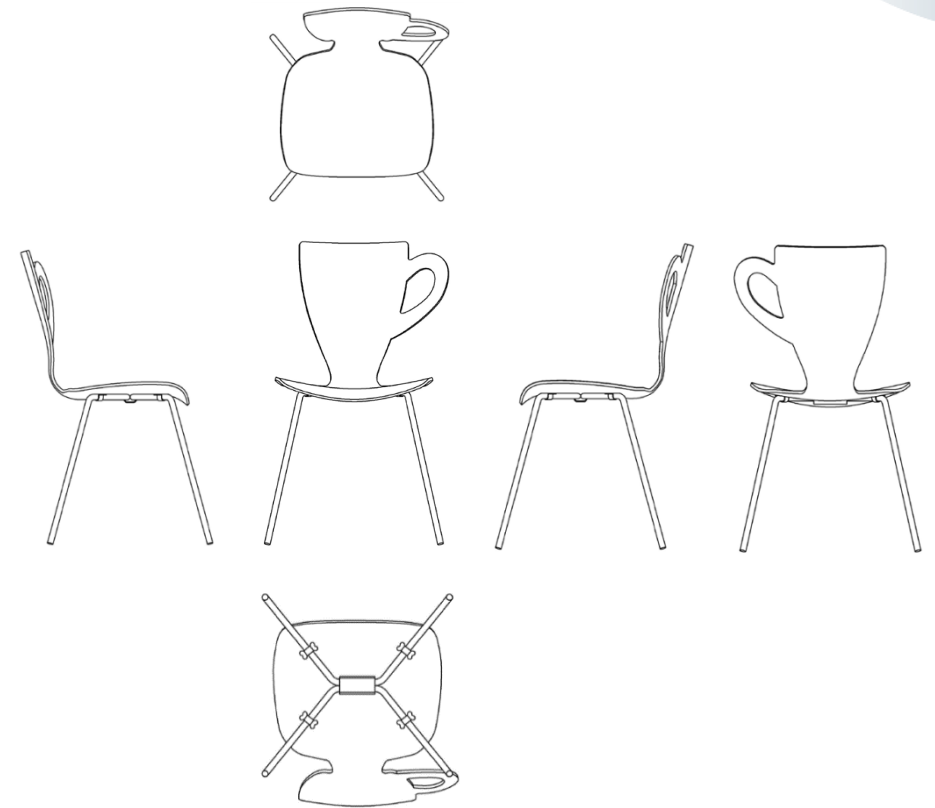
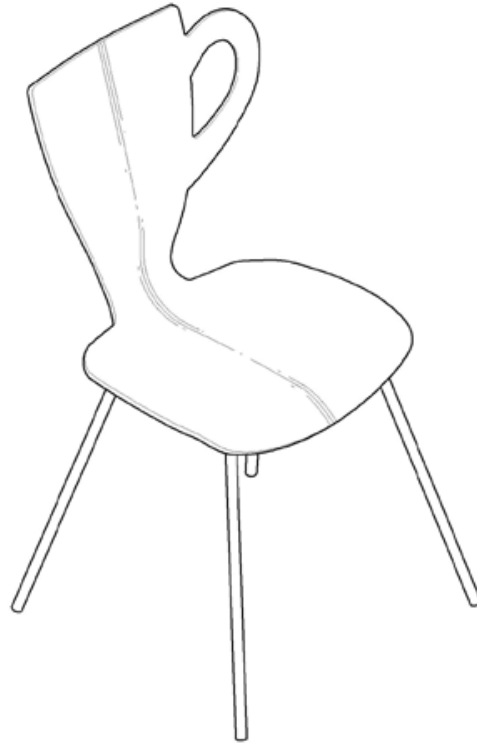


Background

❖ Drawing Requirement of Design Filing



Image courtesy: Kwon, sunhan



Background

❖ Benefits of 3D Format Application



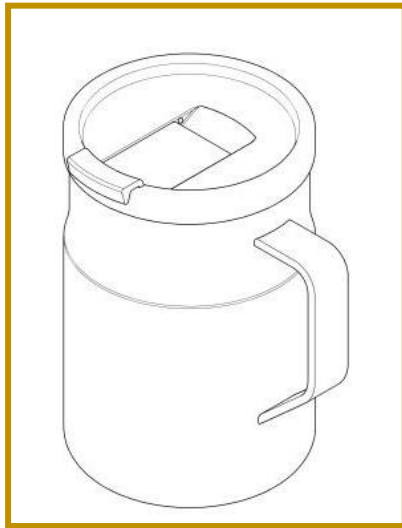
“from filing to disclosure, digitally and seamlessly ”

“convenient, efficient and user-friendly”

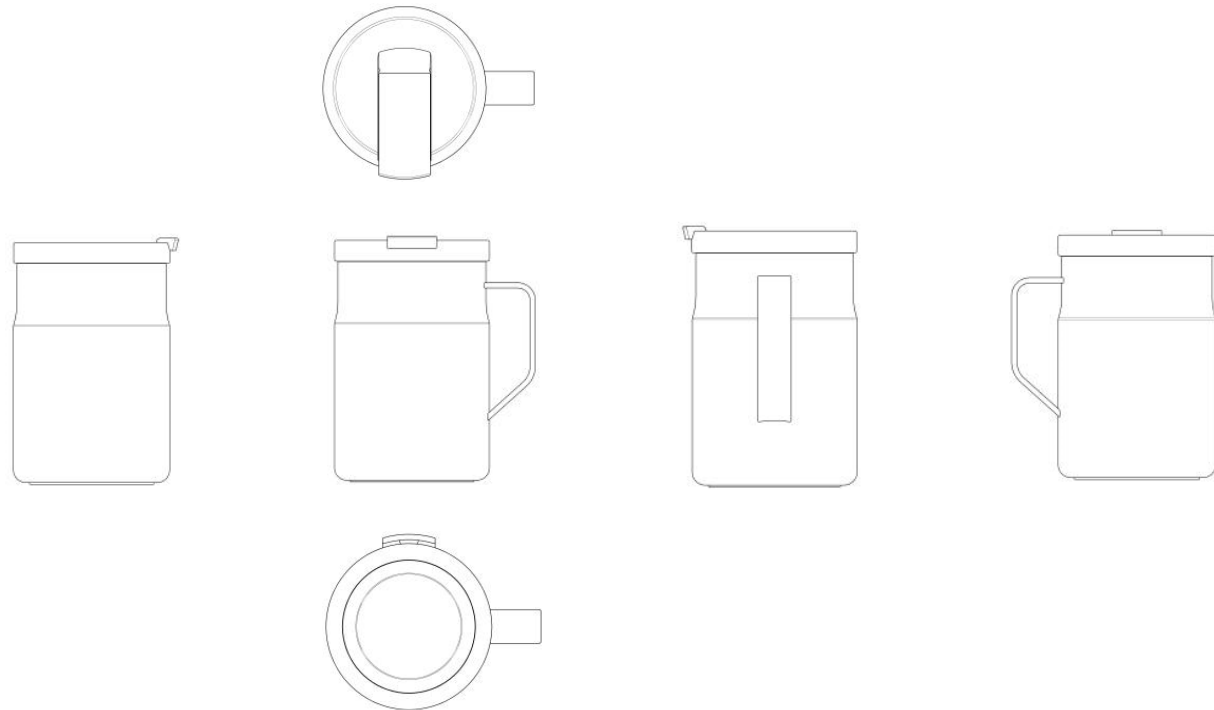
Introduction of the 3D E-Filing System

❖ Introduction of the 3D e-filing system

- To meet wider industrial demands and enhance filing convenience (effective as of January 1, 2010)



30-1122032



Application and Examination Procedure

❖ KIPOnet (Filing) → Examiner (Drawing Inquiry), 2D Drawing Extraction → Design Registration Disclosure

특허로 My특허로 신청/제출

출원부터

- 국내출원신청
- 심판청구
- 증명서발급신청
- 증명서수신함

공지사항

- [공지] 특허로 서비스 일시중단 안내(22.11.20(일) 00:00~10:00)
- [공지] 인공지능(AI) 기반 특허행정 서비스 제공을 위한 설문...
- [공지] '22학년도 대학수학능력시험 관련 특허고객상담센터...
- [공지] 구버전 서식작성SW 이용 제한 안내

국내디자인 상세조회

출원번호: 30-2020-00000000

출원사항

출원번호	30
심사구분	심
등록번호	30
공개번호	
출원인	(주)...
대리인	

디자인사항

분류	B3
신분류 (주분류)	1
물품명칭	반지
복수디자인여부	1
창작의 요점	있

이진화면 | 심사이력 | 육면도 | 심사예모 | 출원관련인 | 이의사항

대표도면변경 | 우선권 | 등록원부 | 분류심사이력 | 심결문검색 | 연계책임정보

도면 1.1 | 추출도면 1.1_1 | 추출도면 1.1_2

등록디자인 00-1000141

(10) 대한민국특허청(KR) (46) 공고일자 2020년08월17일

(12) 등록디자인공보(S) (11) 등록번호 30-1082141

(24) 등록일자 2020년08월11일

(60) :
(61) :
(62) :
(63) :
(64) :
(65) :
(66) :
(67) :
(68) :
(69) :
(70) :
(71) :
(72) :
(73) :

담당실장 : 남수진

(64) 명칭 변경

디자인도면

물품류 제11류

디자인의 대상이 되는 물품 반지

디자인의 설명

1. 계절은 봄, 여름, 가을, 겨울, 봄, 여름, 가을, 겨울 등 기타 급속변경이 이루어지는 반지임.
2. 월부분 도면은 3D 도면임.

디자인 창작 내용의 요점

본 디자인은 서로 어우러지는 조형물에서 영감을 받은 디자인으로서, 윤곽적리플 구조를 처리한 제인과 레 두리에 컷팅 처리할 수 있는 제인이 반복적으로 서로 맞물리게 전체적인 조화를 이루는 것을 창작내용의 요점으로서 함.

도면 1.1

3D 도면 파일 첨부

- 1 -

3D File Formats

❖ Maintenance History of 3D File Formats

- (2010) IGES, 3DM, 3DS, DWG, DWF → (2023) **IGES, OBJ, STEP, STL**

OLD
IGES
3DM
3DS
DWG
DWF



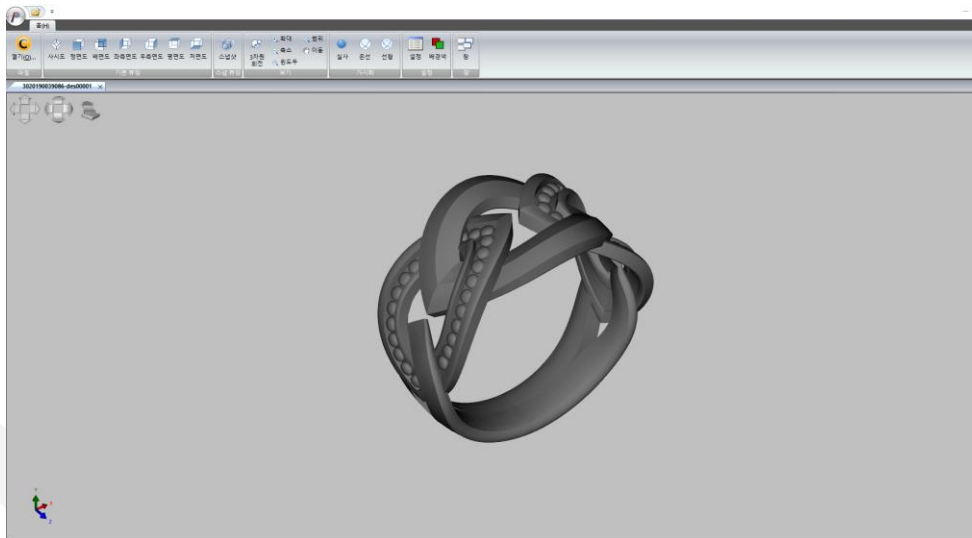
NEW (2023.12.~)	
	IGES
	-
Integrated	OBJ
Add new	STEP
	STL

Statistics – 8% of all filings are 3D design-related

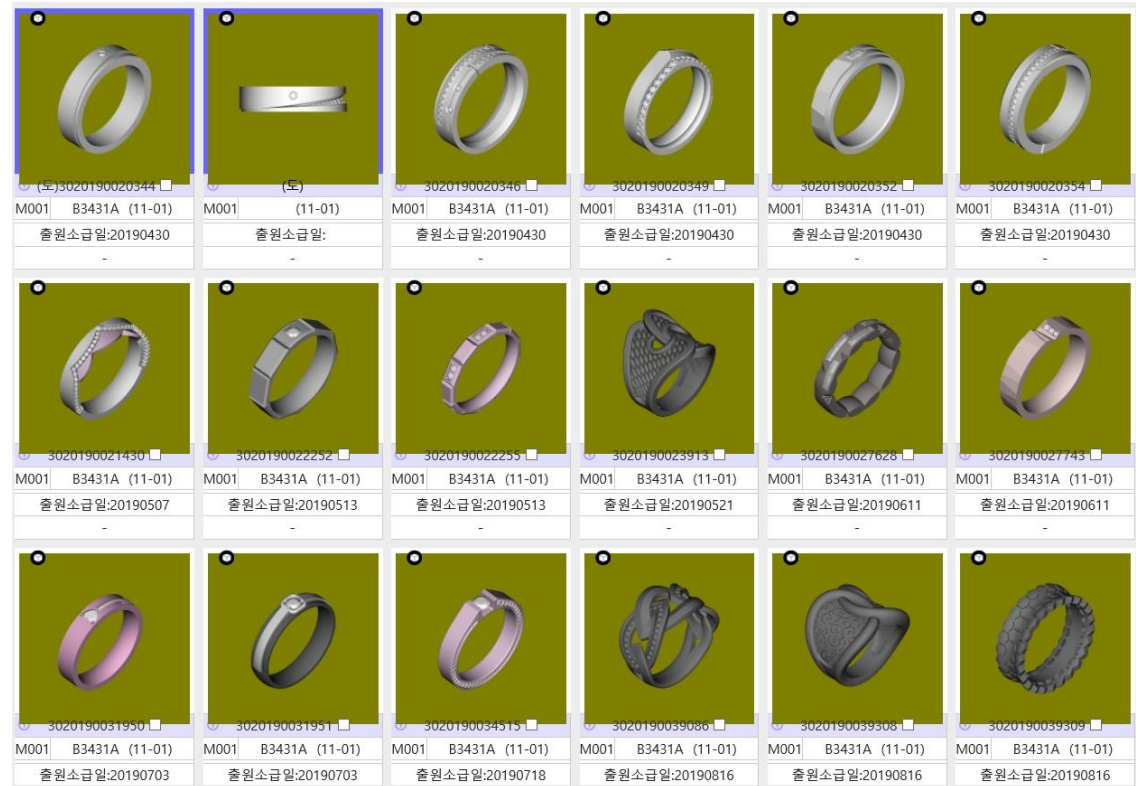
	IGS (IGES)	3DM	3DS	DWG	DWF	STP (step)	STL	OBJ	Total
2015	1,731	772	700	670	23	-	-	-	3,896
2016	1,574	1,178	678	500	13	-	-	-	3,943
2017	1,642	1,337	581	470	25	-	-	-	4,055
2018	2,060	1,313	561	479	8	-	-	-	4,421
2019	1,956	1,214	448	532	7	-	-	-	4,157
2020	2,301	1,330	395	458	26	-	-	-	4,510
2021	2,522	1,362	362	638	56	-	-	-	4,940
2022	2,474	1,506	422	331	17	-	-	-	4,750
2023	2,213	986	517	396	45	16	3	0	4,176
2024	1,598	0	0	0	0	1,953	814	353	4,718

Examination of 3D Application Drawings

❖ CADian Viewer is used for drawing visualization.

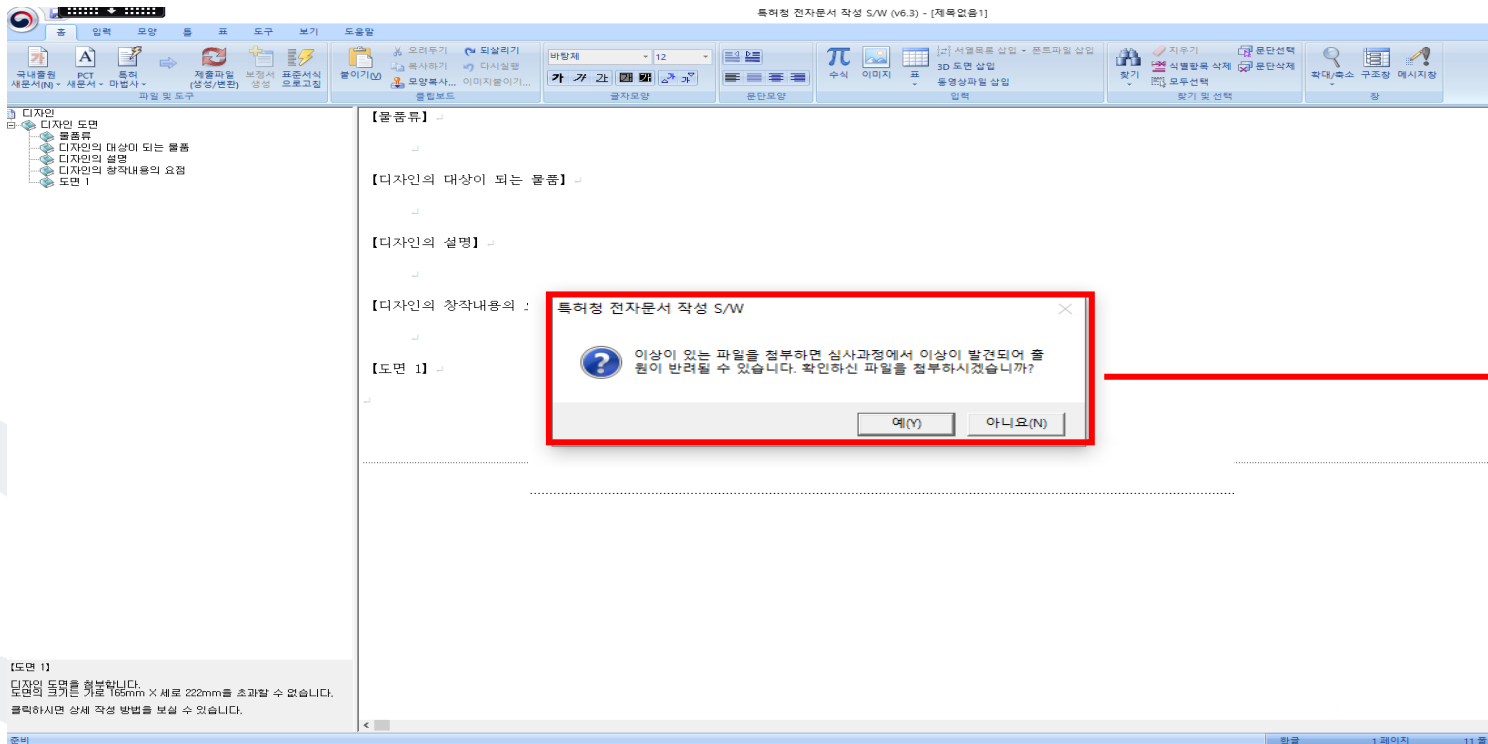


30-1063141



Quality Assurance

- ❖ A self-check step has been added for applicants when uploading drawings.





Attaching a file with errors may lead to rejection during the examination process. Would you like to attach the file you have reviewed?

Design Registration Disclosure

❖ Insert the 3D Modeling File into the Gazette Using a PDF Converter

등록디자인 30-1257492

등록디자인 30-1257492 

 (19) 대한민국특허청(KR) (45) 공고일자 2024년04월18일
(12) 등록디자인공보(S) (11) 등록번호 30-1257492
(24) 등록일자 2024년04월11일

(61) 국제분류 11-01
(21) 출원번호 30-2024-0002290
(22) 출원일자 2024년01월17일

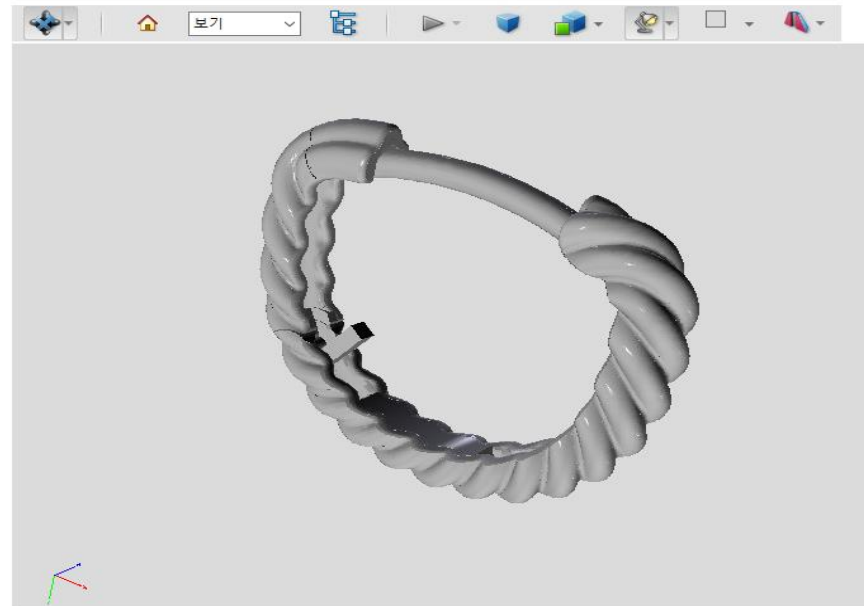
(73) 디자인권자
주식회사세경
부산광역시 동래구 무학동로 158, (부곡동)

(72) 창작자
맹수연
서울특별시 강남구 삼성로 342 세경빌딩

(74) 대리인
김민철, 김진환, 박지하

담당실사관 : 이은윤
(64) 명칭 귀걸이

도면 1(장부)



The 3D modeling file is embedded in the PDF gazette. Once downloaded, you can rotate and pan to view the design in 3D.

디자인도면

품종류
제11류

디자인의 대상이 되는 품종
귀걸이

디자인의 설명

1. 재질은 금, 은을 포함하는 금속제인.
2. 도면 1은 본 디자인의 3D 파일임.

디자인 장각 내용의 요점

"귀걸이"의 형상과 모양의 결합을 디자인장각내용의 요점으로 함.

도면 1

3D 도면 파일 첨부

How to Ensure the Quality of the Gazette

디자인도면

물품류
계3류

디자인의 대상이 되는 물품
여행용 가방

디자인의 설명

1. 재질은 합성수지재, 합성섬유재 및 금속재임.
2. 본원 디자인은 여행용 물품을 내부에 수납한 채로 운반이 가능하도록 하는 여행용 가방에 관한 것임.
3. [도면 1.1]은 디자인의 전체형상을 3d 도면으로 표현한 것임.
4. 붉은색으로 칠한 부분 이외의 부분이 부분디자인으로서 디자인등록을 받고자 하는 부분임.

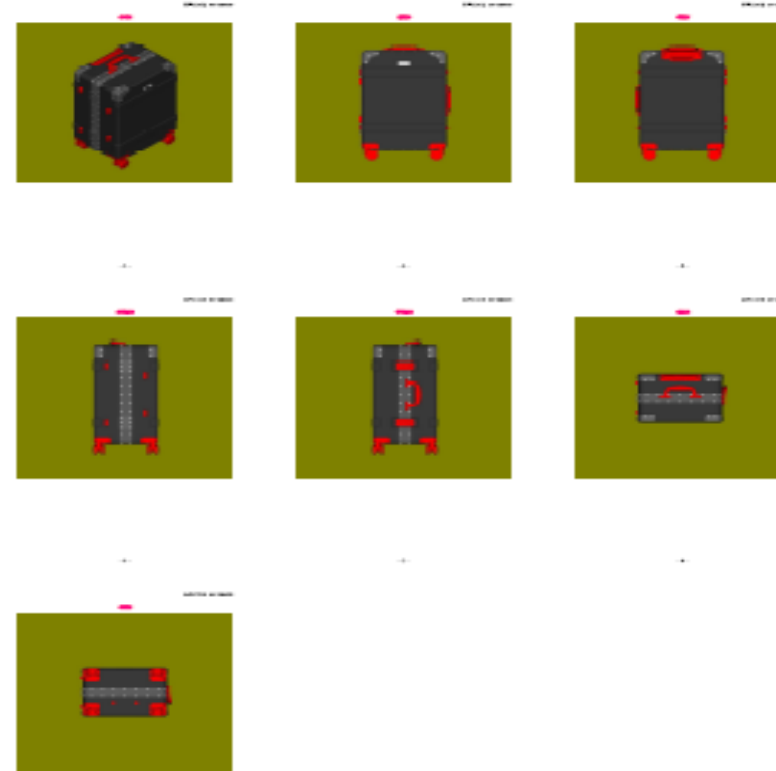
디자인 창작 내용의 요점

'여행용 가방'의 형상과 모양의 결합을 디자인 창작내용의 요점으로 함.

도면 1.1

* 본 디자인 도면은 3D 원본파일에서 추출한 도면입니다

30-1228465



For 3D designs not supported by the PDF converter,
create seven-view images including perspective, front, and floor views for the gazette.

Challenges and Opportunities

File Format Extensions

❖ 3D Format Application – KIPO's Progress

- KIPO introduced 3D format applications in the design field in 2010 and has continuously enhanced its support over the past 15 years.
- File format extensions to facilitate applicants:
 - ✓ IGES (2011)
 - ✓ 3DM (2013)
- Extension updates based on WIPO Standard ST.91 (2023):
 - ✓ STEP
 - ✓ IGES
 - ✓ OBJ
 - ✓ STL

Opportunities of 3D Format Application

❖ Opportunities of 3D Format Application

■ Filing

- ✓ Applicants can easily submit applications electronically by uploading 3D modeling files.
- ✓ Eliminates the need to convert 3D models into 2D drawings, reducing errors and minimizing the need for corrections due to inconsistencies.

■ Examination

- ✓ Enables examiners to extract 2D views during the examination process and improves design clarity through 3D visualization.
- ✓ Speeds up the examination process and reduces the risk of rejections caused by unclear or incomplete drawings.

Amendments and Quality Assurance

❖ Amendments to 3D Format Application

- Following the 2023 revision of the Design Protection Act, KIPO allows corrections between 2D and 3D drawings (2D → 3D, 3D → 2D).
- Applicants may submit converted drawings to resolve issues identified.

❖ KIPO's Efforts to Improve the 3D Format Filing, Examination, and Registration System

- Regular review meetings held to improve the quality of the 3D filing, examination, and registration system.
- Identification of issues and improvement tasks throughout the process—from filing to registration (e.g., updating viewer systems and user manuals).
- Investigation and resolution of errors in submitted drawings.

Publication of IP Information

❖ 3D Drawing Viewer Service for Filing and Registration Gazettes

- KIPO provides the 3D viewer service for both e-filing and registration gazettes.
- Applicants can review their 3D drawings via the viewer during e-filing.
- The 3D drawings are disclosed through the viewer in the electronic gazette after examination.

❖ Disclosure of 3D Drawings

- Even before final registration, early disclosure is possible if requested during filing or examination.
- Both 2D and 3D design applications are, in principle, disclosed after the registration decision.
- KIPO does not have the authority to utilize the submitted drawing data.

IP Data Exchange

❖ 3D Modeling Data Exchange

- KIPO has not received consent or delegation from applicants regarding the disclosure or use of submitted drawings.
- Therefore, internal review is required before any data exchange.
- It is important to note that 3D drawings are sensitive data that can be reproduced or replicated, requiring careful handling.

❖ Priority Document for 3D Format Applications

- In principle, the original 3D drawing must be included in the priority document and provided to the Office of Second Filing.
- However, the Office of Second Filing must use a compatible viewer as the Office of First Filing to properly view and interpret the 3D drawing in the priority document.
- This issue requires further coordination and resolution for WIPO standard ST.92.

3D Drawing and the Hague System

- ❖ **From an IT Perspective, KIPO's Position on 3D Applications via the Hague System**
 - **If 3D applications are allowed through the Hague System, the applicant, the International Bureau, and designated countries must all use a compatible 3D viewer.**
 - **Consistent representation of design elements—including shape, color (shading), and texture—is essential.**
 - **It is necessary to reach agreement on issues such as the use of 2D drawings alongside 3D ones during examination, and whether 3D drawings will be disclosed in the registration gazette.**
 - **Data security and handling protocols within contracting parties also require mutual agreement.**

Thank you!