

Einleitung

Ziel des Kataloges ist es, Sammlern und Benutzern von Ankersteinen eine Übersicht zu verschaffen über:

- das von Richter produzierte Steinsortiment (inklusive Metall- und Holzzubehör),
- den Inhalt der durch Richter- /VEB /Ankerfabrik produzierten oder entwickelten Kästen.

Welche Steine und sonstige Artikel gibt es bei Richter?

1. Großkaliber Bausteine:

Die wichtigste Steinserie ist **Neue Folge (GKNF)**: das meist verkaufte und das größte Steinsortiment. Davor gab es noch eine andere Steinserie: **Alte Folge (GKAF)**, mit einem etwas kleineren Sortiment und ganz anderer Nummerierung. Im Laufe der Zeit wurde das Neue Folge Steinsortiment erweitert: erst bis 550 (ununterbrochene Nummerierung) und dann bis 1000 (viele Lücken in der Nummerierung). Später gab es noch weitere Erweiterungen des Steinsortimentes, die jedoch von Richter nicht mehr als Neue Folge sondern als **Neue Serie (NS)** und **Neue Reihe (NR)** bezeichnet wurden.

In den letzten Jahrzehnten wurden noch viele Richter-Steinformen ohne Richter-Nummer identifiziert. Diese sind in diesem Katalog neu nummeriert (1301-2000). Weiter gibt es noch Steine, die ab 2001 nummeriert sind: neue Steinformen, die an das GKNF/NS/NR-Sortiment anschließen, aber die nicht von Richter entwickelt worden sind, sondern von Anker-Liebhabern.

Dann hat Richter noch ein ganz spezielles Steinsortiment entwickelt: die **Romanische Serie**, die zwar an GKNF anschließt, aber separat nummeriert (wieder ab 1!) worden ist.

2. Kleinkaliber Bausteine:

Auch in Kleinkaliber gibt es eine **Neue Folge (KKNF)** und vorhergehend **Alte Folge (KKAF)**.

3. Bauteile aus Metall oder Holz:

Im Anschluß an diese Steinserien gab es zuerst **Vernickelte Metallteile**, die man in den **Klein- und Großkaliber Brückenkästen (KKBr und GKBr)** finden kann (und auch in Stufe 21 der KKNF-Serie). Später kann man das Nickelmetall in den **Imperator-Brückenkästen** finden und noch später in der **Vernickelten Eisenteileserie (VE-Serie)**. Der VE-Serie folgte die viel weiter verbreitete **Dachsteine-Serie (DS-Serie)**, bei der das Nickelmetall durch **Lackierte Metallteile** ersetzt wurde. Dann gibt es noch die **Brücke von 1895** mit einer ganz anderen Art von vernickelten **Metallkonstruktionsteilen**. **Holzteile** gibt es bei den Kästen der **Landhausserie**.

4. Zubehör:

Richter führte viele Artikel zur **Ausstattung der Ankerbauten**: Turmspitzen, Fenster, Türen, Uhren, Gitter und andere Ausstattungsfiguren aus Papier oder Papiermaschee.

5. Mosaik- und Puzzlesteine:

Mosaiksteine gibt es in Groß- und Kleinkaliber und können sowohl separat, als auch zur Ausschmückung von Ankerbauten verwendet werden. **Geduldspiele, Vexier, Lustige Tiere, Blumenspiel** usw. sind entweder Puzzles oder Legespiele, die nichts mit Ankerbauten zu tun haben.

6. Sonstige Richter-Bauteile:

Das Richter-Produktsortiment führte auch noch **Künstler-Modellbausteine, Hölzerne Bauklötze** und **Metallkonstruktions-Bauteile**.

Abbildungen dieser Steine oder sonstiger Teile sind in **Sektion 1 - 6** dieses Katalogs zu finden.

Wie sind Steine aufzufinden?

Zum Auffinden eines Steines kann die vorne eingefügte **Steinübersicht (Sektion 0)** benutzt werden. Diese besteht aus zwei Teilen:

- einem mit Abbildungen für Steine in einer Ordnung, die in früheren Richterkatalogen gebräuchlich war,
- einer Ergänzung (ohne Abbildungen) für sonstige Steinkategorien, die verstreut im Katalog vorkommen.

Welche Inhaltsübersichten wurden aufgenommen?

Sektion 7: Aufbau der Standard-Serien mit oder ohne Metall.

Sektion 8 und 9: Information über Grundkästen und ("A")-Ergänzungskästen aus allen Serien und über alle Sonder-Ankerbaukästen, die von Richter oder dem VEB-Ankerwerk auf den Markt gebracht wurden.

Sektion 10 und 11: Übersicht über sonstige Richter-Bauteile und Mosaikkästen, Puzzles oder dergleichen.

Sektion 12: Die neue Steinzeit - neue Kästen, Farben, Spieleserie.

Anmerkungen zu den Zeichnungen

Abbildungsweise

Die Abbildungen sind in Originalgröße; dies gilt sowohl für die Steine als auch für die Metall- und Holzteile. Zur genaueren Lesbarkeit sind in den Abbildungen weder schräge Kanten noch Schatten wiedergegeben. Abgesehen von einigen Ausnahmen wurde in schräger Ansicht abgebildet, wie es auch in den Richter-Katalogen üblich war. In der Steinübersicht sind die Zeichnungen in halber Größe.

Gravuren

Die Gravur der Steine ist unterschiedlich:

- bei den Steinen 108-110a variiert die Stelle der mittleren zwei Streifen,
- bei den Steinen 151-154 variiert die Stelle der zwei vertikalen Streifen,
- bei den Steinen 155-162 sind die Gravuren an beiden Seiten gewöhnlich unterschiedlich, manchmal jedoch sind die Gravuren dieselben,
- bei den Steinen 997 und 998 sind zwei Arten von Gravuren bekannt.

Der Nummerierung hinzugefügte Buchstaben

In der Neuen Serie fügte Richter ausnahmsweise folgenden Steinnummern Buchstaben hinzu:

- ein "a" zu den Nummern 98, 100-105, 108-110 und 112-115,
- ein "a" oder "b" zu den Nummern 95-97.

Eine andere Ausnahme bildeten bei Richter die (Landhaus-)Dachplatten: den Nummern 429-438 und 462 wurden ein "a" und "b" als Indizierung für links und rechts hinzugefügt.

Bei den Dachziegeln 660 und 661 wurde durch uns ein "a" und "b" hinzugefügt, da diese Steinnummern eigentlich Steinpaare bilden, von denen Richter die andere Hälfte nicht angegeben hatte.

Bei der Nummerierung der Metallteile bedeutet:

- die Hinzufügung "k" ein Richter-Teil, das speziell für kleines Kaliber geeignet ist,
- die Hinzufügung "r" eine Replik, die in der Ausführung abweicht vom ursprünglichen Richter-Modell.

Bedeutung Symbole usw.



1/12tel Kreis

8:3

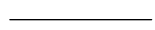
Neigung: Vertikal / Horizontal

1443

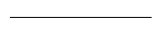
Steinnummer

(651)

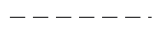
bei alte Folge: korrespondierende NF-Nummer
 bei Neue Reihe: korrespondierende NF-Nummer
 bei Nummern im Bereich 1300 bis 2000: ehemalige NF-Nummer



äußere Linie



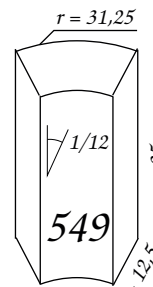
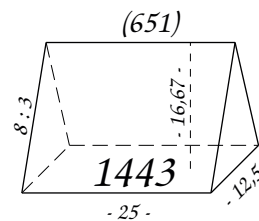
Gravur



verborgene Linie



Maßlinie



Verantwortung

Am Zustandekommen des Kataloges arbeiteten mit die Ankerfreunde Leo Coffeng, Fred Hartjes, Hans Jacobi, Ekkehart Petruschke, Ben Strasters, Jan van der Werff, Burkhard Schulz und János Végh auf Basis des von AF Gerhart Bruckmann, George Hardy, Ad van Selms und Wolfgang Reinhardt zur Verfügung gestellten Materials. Eine wichtige Informationsquelle war weiterhin das Buch "Richters Anker-Steinbaukasten" (Verfasser George F. Hardy), in dem Forschungsergebnisse von AF Niels Gottlob, Jan Hauer, Jerry Slocum und vielen anderen verarbeitet sind. Das Buch ist erhältlich beim Autor und beim Club der Ankerfreunde. Katalog und Buch ergänzen sich in hohem Maße. Möchte man mehr über die Geschichte oder beispielsweise über Passworte und Telegraphworte wissen, dann ziehe man dieses Buch zu Rate.

Introduction

The goal of this catalog is to provide an overview of Anker stones to collectors and users regarding:

- the stone assortment produced by Richter (including metal and wood accessories);
- the contents of the sets produced or developed by the Richter / VEB factory.

Which stones and various articles are "Richter"?

1. Large Caliber (Großkaliber) Building Stones:

The most important stone series is **Neue Folge** (new Series, GK-NF): It was sold the most and had the largest stone assortment. Before the NF there was another series: **Alte Folge** (old series, GK-AF), in which the stone assortment was somewhat less and the numbering completely different. Over the course of time the stone assortment of the **Neue Folge** was expanded: first up to 550 (unbroken numbering) and then up to 1,000 (many gaps in the numbering). Later there were yet further expansions of the stone assortment, but these belong not to the Neue Folge but rather were identified as the **Neue Serie** (new series, NS) and the **Neue Reihe** (new series, NR) (It should now be clear why the German names Neue Reihe, Neue Serie and Neue Folge are used by all Anker friends.)

In the last decades many other Richter stone shapes without Richter numbers or with duplicate Richter numbers were identified. In this catalog these stones have been given the numbers 1301 - 2000. In addition there are new stone shapes, which have been given the numbers from 2001: new stone shapes which link to the GK-NF/NR/NS assortment, but which were not developed by Richter, but by Anker hobbyists.

Then Richter had developed a completely special stone assortment: The Romanesque Series, which indeed connects up to the GK-NF but has separate numbers (beginning with 1!).

2. Small Caliber (Kleinkaliber) Building Stones:

There is a **Neue Folge** (KK-NF, small caliber - new series) in the small caliber and it was preceded by the **Alte Folge** (KK-AF, small caliber - old series).

3. Building Parts of Metal and Wood:

After the conclusion of these stone series there are first of all **nickel plated iron parts**, which one can find in **small and large caliber bridge sets** (KK-Br and GK-Br) and also in the set 21 of the KK-NF series. Later one can find the nickel plated iron parts in the **Imperator** bridge sets and yet later in the **Nickel Plated Iron Part Series** (VE series). The VE series was followed by the more widely distributed **Roof Stone Series** (Dachsteine-Serie, DS), in which the nickel parts were replaced by **lacquered metal parts**. There is also the **Bridge of 1895** with unique forms of nickel plated metal parts. The **wooden** parts are found in the sets of the **Landhaus** series.

4. Accessories:

Richter produced many items for outfitting the Anker buildings: spires (Turmspitzen), windows, doors, clocks, railings and other figures of paper and a type of papier-mâché.

5. Mosaic and Puzzle Stones:

Mosaic stones came in GK and KK and are separate. They were used for the decoration of Anker buildings. **Puzzles, puzzle mosaics, Funny Animals** and the **Flower Puzzle**, etc. were either puzzles or games, which have nothing to do with Anker buildings.

6. Special Richter Building Parts:

Richter products include the **Artist Model Stones**, **wooden blocks** and the **metal construction building parts**.

Pictures of these stones or other parts are in **Sections 1 - 6** of this catalog.

How to find the stones:

To locate an individual GK stone one can use the initial overview (**Section 0**). It consists of two parts:

- pictures of stones in an arrangement which was used in one Richter catalog;
- a supplement (without pictures) for the various stone categories which are scattered in this catalog.

Which Content Overview Should Be Used?

Section 7: The arrangement of the standard series with or without metal parts.

Section 8 and 9: Information about the basic sets and the supplement sets (A sets) of all series and all special Anker sets, which were brought out by Richter or the VEB-Anker factory.

Section 10 and 11: Overview of the various Richter building parts and mosaic sets, puzzles or the like.

Section 12: Stones and sets created by GoKi, the new owner of the factory.

Notes on the Drawings

Picture Style

The pictures are in original size; this goes not only for the stones but also for the metal and wooden parts. For better readability the pictures of the stones are shown with neither broken edges nor shading. There are some exceptions to that rule, which were pictured slanted, as in the original Richter catalogs. In the stone overview the drawings are half size.

Grooves

The grooves differ:

- for the stones 108 - 110a there are variations in the placement of the middle two lines;
- for the stones 151 - 154 there are variations in the placement of the two vertical lines;
- for the stones 155 - 162 the grooves usually differ on the two sides, however they frequently are the same;
- for the stones 997 and 998 there are two types of grooves known.

The Numbering of the Added Letters

In the NS, Richter (he was dead, so his heirs) by way of exception added letters following the stone number:

- an "a" to the numbers 98, 100 - 105, 108 - 110 and 112 - 115;
- an "a" or "b" to numbers 95 - 97.

In another exception the roof plates pictured by (the dead) Richter for the Landhaus series: the numbers 429 - 438 and 462 were identified by an "a" and "b" for the left and right hand parts.

For the roof tiles 660 and 661 an "a" and "b" were added by us since these stone numbers (can) form individual pairs which were not so identified by (the dead) Richter. (This identification is important only in the case of two-color stones -- red on one side and blue on the other. Single color stones are the same on both sides.)

For the numbering of the metal parts:

- the added "k", a Richter part, which was made special for KK;
- the added "r", a replica, which deviates from the Richter original.

Meaning of Symbols, etc.



1/12th of a circle



slope ratio vertical to horizontal

1443

stone number

(651)

in case of *Alte Folge*: respective NF-Number

in case of *Neue Reihe*: respective NF-Number

in case of numbers in the 1300 to 2000 array: former NF-Number



outer lines



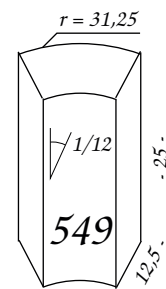
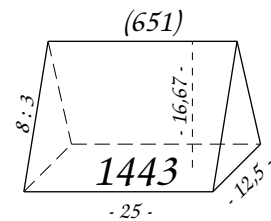
grooves



hidden lines



measurement lines



Responsibility

The present catalog was made by AVs Leo Coffeng, Fred Hartjes, Hans Jacobi, Ekkehart Petrauschke, Ben Strasters, Jan van der Werff, Burkhard Schulz and János Végh on the basis of materials provided by AVs Gerhart Bruckmann, George Hardy, Ad van Selms and Wolfgang Reinhardt. An important information source was "Richter's Anker Stone Building Sets" (by George Hardy) and the results of the research of Niels Gottlob, Jan Hauer, Jerry Slocum and many others. The book can be downloaded from the Internet or the printed version can be obtained from the author and the Club of Anker Friends. The catalog and the book supplement each other to a great degree. If one wants to know about the history or for example the "passwords" and "telegraph words", then one should turn to this book.

Inleiding

Doel van de catalogus is de verzamelaars en gebruikers van Ankerstenen een overzicht te verschaffen van:

- het door Richter geproduceerde steenassortiment (inclusief metalen en houten toebehoren);
- de inhoud van de door de Ankerfabriek van Richter en VEB geproduceerde of ontwikkelde dozen.

Welke stenen en andere artikelen zijn er in het Richterassortiment?

1. Grootkaliber bouwstenen

De belangrijkste steenserie is **Neue Folge (nieuwe reeks, GKNF)**: het meest verkochte en grootste steenassortiment. Daarvoor was er nog een andere steenserie: **Alte Folge (oude reeks, GKAF)**, met een wat kleiner assortiment en een geheel andere steennummering. In de loop der tijd is het Neue Folge steenassortiment uitgebreid: eerst tot nr. 550 (ononderbroken nummering) en vervolgens tot nr. 1000 (met vele hiaten in de nummering). Later kwamen er nog meer uitbreidingen, die echter door Richter niet meer als **Neue Folge** maar als **Neue Serie (NS)** en **Neue Reihe (NR)** werden aangeduid.

Gedurende de afgelopen tientallen jaren zijn nog veel Richter-steenvormen zonder Richter-nummers geïdentificeerd. Deze stenen zijn in deze catalogus opnieuw genummerd (1301-2000). Verder zijn er nog stenen die vanaf 2001 zijn genummerd: nieuwe steenvormen die bij het GKNF/NS/NR-assortiment aansluiten maar die niet door Richter ontwikkeld zijn maar door Ankerliefhebbers.

Verder heeft Richter nog een speciaal steenassortiment ontwikkeld: de **Romanische Serie** (romaanse serie), die weliswaar bij GKNF aansluit maar apart (opnieuw vanaf 1!) genummerd is.

2. Kleinkaliber bouwstenen

Ook in kleinkaliber is er een **Neue Folge (KKNF)** en daaraanvoorafgaand een **Alte Folge (KKAF)**.

3. Metalen en houten onderdelen

In aansluiting op voornoemde steenseries kwamen er eerst de **vernikkelde metaaldelen** die men in de **Klein- en Grootkaliber Bruggendozen (KKBr en GKBr)** kan vinden (en ook in trap 21 van de KKNF-serie). Later komt men het vernikkelde metaal tegen in de **Imperator-Bruggendozen** en nog later in de **Vernikkelde Eisenteile-Serie (vernikkelde-ijzerdelen-serie, VE-Serie)**. Op de VE-serie volgde de veel wijder verbreide **Dachsteine-Serie (dakstenen-serie, DS-Serie)**, waarbij het vernikkelde metaal door **Lackierte Metallteile (gelakte metaaldelen)** werd vervangen.

Dan is er nog de **Brug van 1895** met een geheel ander soort **metaalconstructiedelen**.

Houten onderdelen zijn er bij de **Landhausserie**.

4. Toebehoren

Richter produceerde vele artikelen om de ankerbouwwerken aan te kleden (**Ausstattung**): torenspitsen, vensters, deuren, uurwerken, hekken en andere stoffagefiguren (**Ausstattungsfiguren**) van papier en papier-maché.

5. Mozaïek- en puzzelstenen

Mozaïekstenen zijn er in groot- en kleinkaliber en zij kunnen zowel op zichzelf als ter versiering van ankerbouwwerken worden gebruikt. **Geduldspiele** (puzzels), **Vexier** (mozaïekpuzzels), **Lustige Tiere** (vrolijke dieren), **Blumenspiel** (bloemenspel) enz. zijn of puzzels of spelletjes die niets met ankerbouwwerken te maken hebben.

6. Overig bouw materiaal van Richter

Het Richter-assortiment omvatte ook nog **Künstler-Modellbausteine, houten blokken en metaalconstructie-bouwdelen**.

Afbeeldingen van deze stenen en overige delen zijn in **deel 1 - 6** van deze catalogus te vinden.

Hoe kunt u stenen opzoeken?

Om een steen op te zoeken kan voorin de catalogus het **steenoverzicht (deel 0)** gebruikt worden. Dit overzicht bestaat uit twee delen:

- afbeeldingen van stenen in de volgorde die in de vroegere Richter-catalogi gebruikelijk was;
- een supplement, zonder afbeeldingen, van andere steencategorieën die op verschillende plaatsen in de catalogus voorkomen.

Welke inhoudsoverzichten zijn er opgenomen?

Deel 7: Opbouw van de standaardseries met en zonder metaal.

Deel 8 en 9: Informatie over de gronddozen en ("A")-aanvullingsdozen uit alle series en alle speciale Ankerbouwdozen die door Richter of door de VEB-Ankerwerk op de markt zijn gebracht.

Deel 10 en 11: Overzicht van de overige bouwonderdelen en mozaïekdozen, puzzels en dergelijke.

Deel 12: De nieuwe steentijd - nieuwe dozen, kleuren, spellenserie.

Opmerkingen bij de tekeningen

Wijze van afbeelden

De afbeeldingen zijn op ware grootte; dit geldt zowel voor de stenen als voor de metalen en houten delen. Voor een optimale herkenbaarheid zijn noch facetranden noch schaduwen weergegeven. Afgezien van enkele uitzonderingen zijn de bouwonderdelen in een schuin aanzicht getekend, zoals dat ook in de catalogi van Richter gebruikelijk was. In het steenoverzicht zijn de tekeningen op halve grootte.

Graveringen

Er bestaan variaties in de graveringen van de stenen:

- bij de stenen 108-110a varieert de plaats van de twee middelste strepen;
- bij de stenen 151-154 varieert de plaats van de twee verticale strepen;
- bij de stenen 155-162 verschillen de graveringen aan beide kanten meestal, maar soms zijn de graveringen identiek;
- bij de stenen 997 en 998 zijn twee soorten graveringen bekend.

Aan nummers toegevoegde letters

In de Neue Serie heeft Richter bij wijze van uitzondering de volgende steennummers van letters voorzien:

- een "a" bij de nummers 98, 100-105, 108-110 en 112-115;
- een "a" of "b" bij de nummers 95-97.

Een andere uitzondering vormen bij Richter de (Landhaus-)dakplaten: aan de nummers 429-438 en 462 zijn een "a" en "b" toegevoegd als aanduiding voor links en rechts.

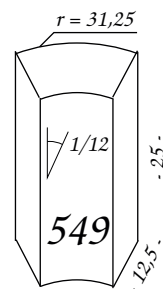
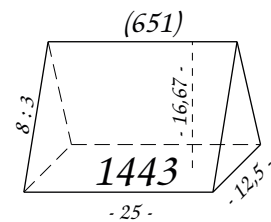
Bij de daktegels 660 en 661 is door ons een "a" en "b" toegevoegd, omdat deze steennummers eigenlijk paren vormen waarvan Richter de andere helft niet aangegeven had.

Bij de nummering van metaaldelen betekent:

- de toevoeging "k" een Richter-onderdeel dat speciaal voor kleinkaliber is gemaakt;
- de toevoeging "r" en replica die in de afwerking afwijkt van het oorspronkelijke Richter-model.

- Betekenis van symbolen enz.

| | | | |
|-------------|--|--|----------------|
| | 1/12 cirkel | | buitenste lijn |
| | Helling verticaal:horizontaal (tangens) | | graving |
| | | | verborgen lijn |
| | | | meetlijn |
| 1443 | steennummer | | |
| (651) | bij Alte Folge: overeenkomstig NF-nummer | | |
| | bij Neue Reihe: overeenkomstig NF-nummer | | |
| | bij nummers van 1300 t/m 2000: voormalig NF-nummer | | |

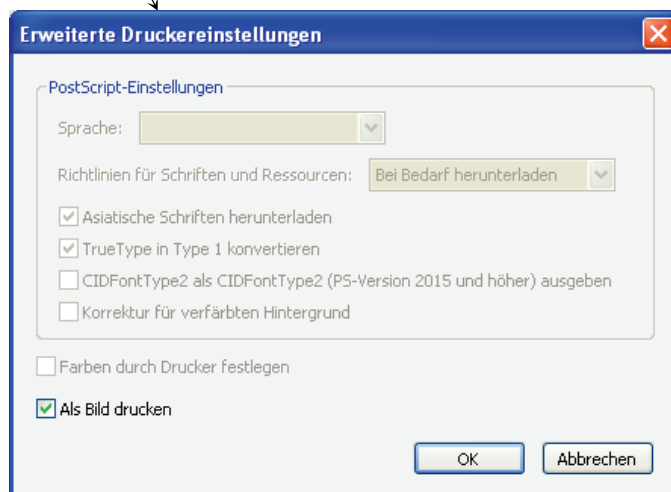
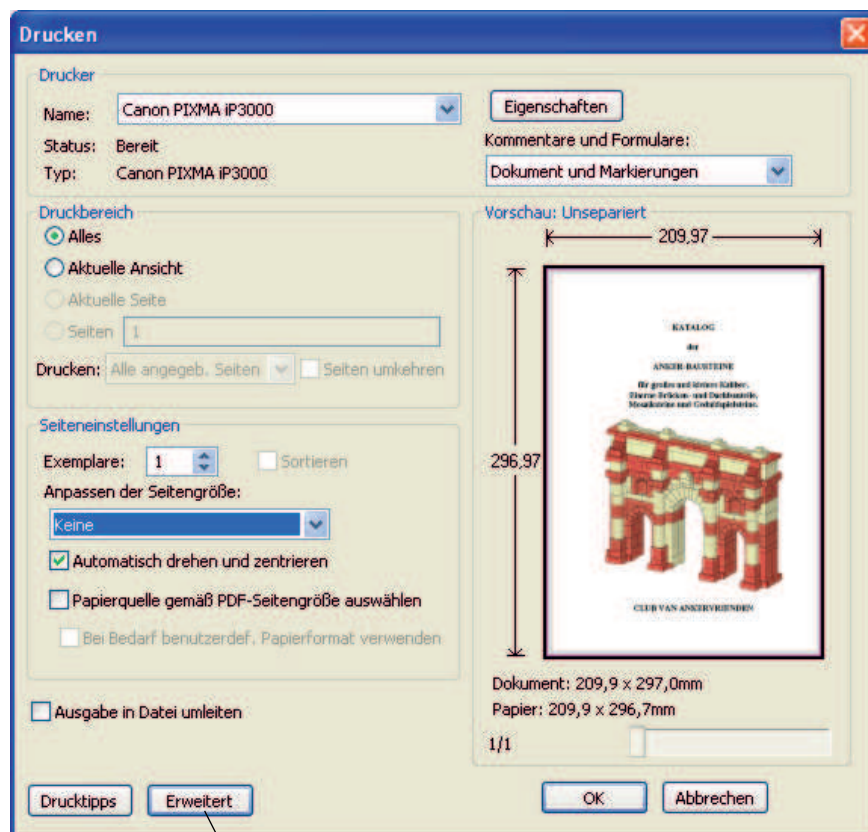


Verantwoording

Aan het tot stand komen van deze catalogus hebben de Ankervrienden Leo Coffeng, Fred Hartjes, Hans Jacobi, Ekkehart Petrauschke, Ben Strasters, Jan van der Werff, Burkhard Schulz en János Véghe meegewerkt op basis van door de AV'en Gerhart Bruckmann, George Hardy, Ad van Selms en Wolfgang Reinhardt ter beschikking gesteld materiaal. Een belangrijke informatiebron was verder het boek "Richters Anker-Steinbaukasten", samengesteld door George Hardy, waarin de onderzoeksresultaten van de AV'en Niels Gottlob, Jan Hauer, Jerry Slocum en vele anderen zijn verwerkt. Dit boek is te verkrijgen bij de auteur en bij de Club van Ankervrienden. Catalogus en boek vullen elkaar in hoge mate aan. Wil men meer over de geschiedenis of bijvoorbeeld kenwoorden en telegraferwoorden weten, dan raadplege men dit boek.

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Die Datei ist für den Ausdruck auf DIN A4-Papier gedacht.

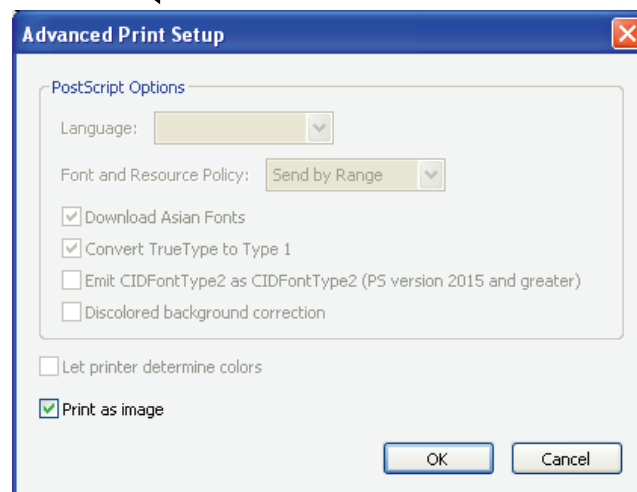
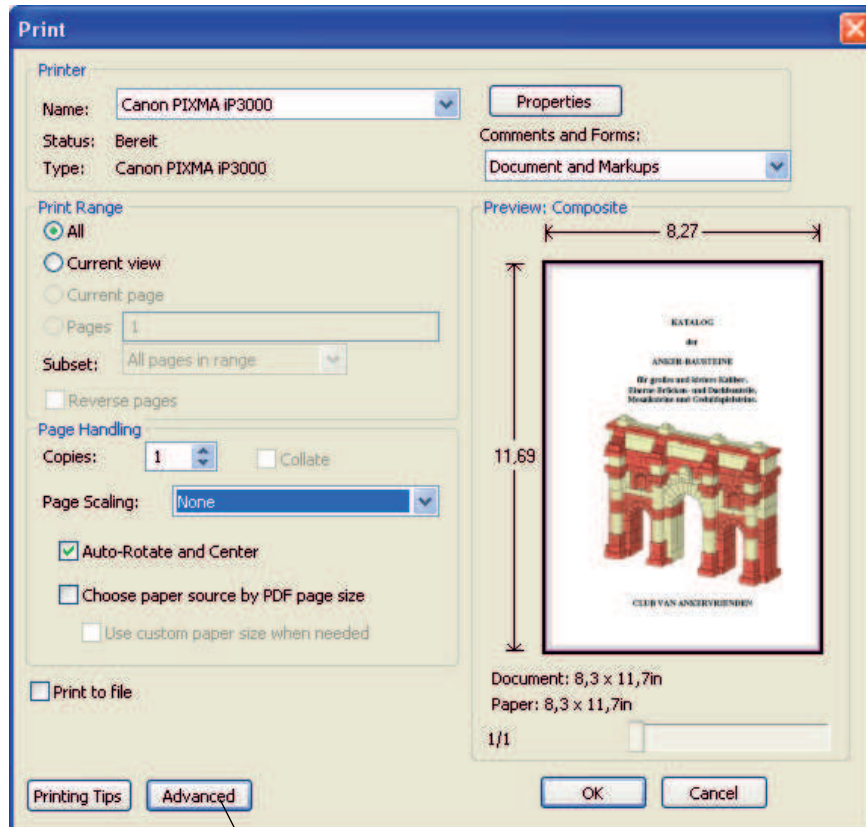
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Dann haben die Steinzeichnungen aber nicht mehr den Maßstab 1:1 !

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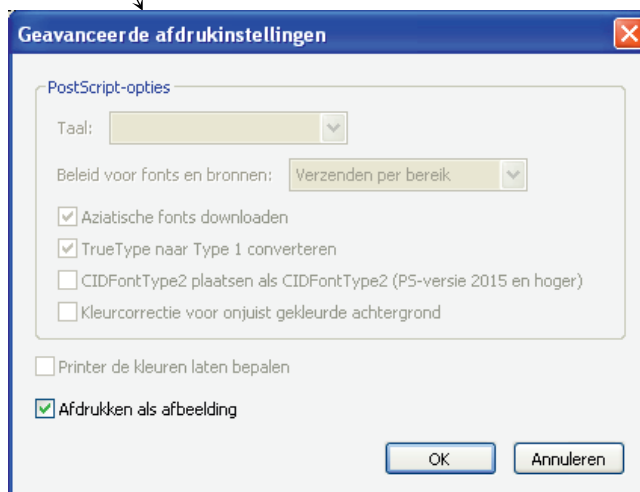
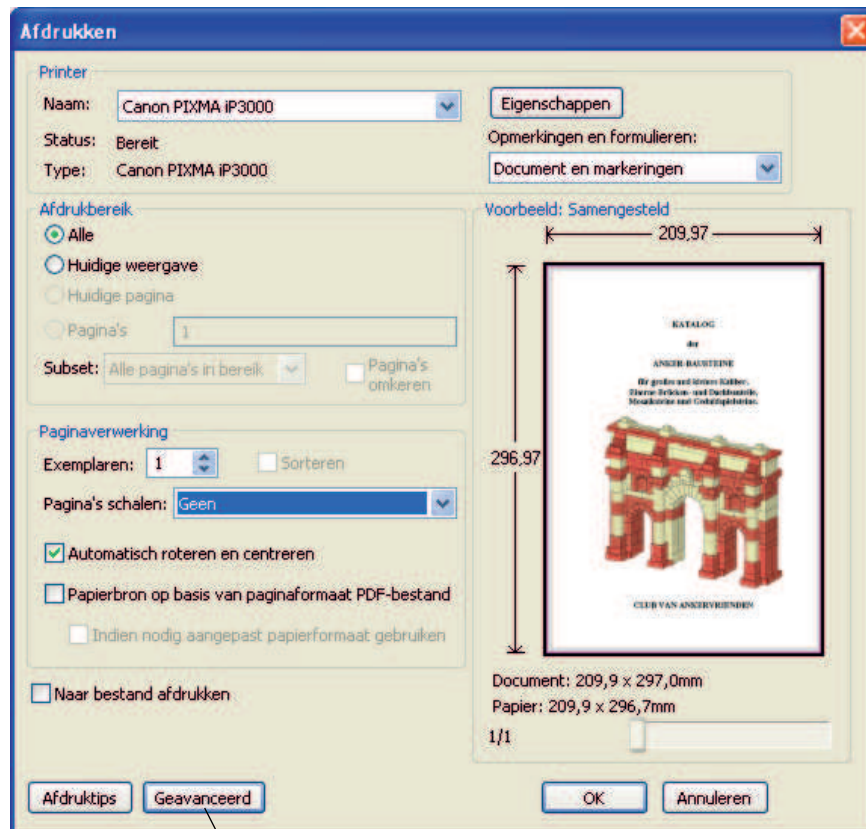
To achieve the correct scale, you should use the following parameters.






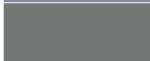





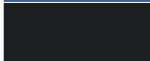










If you use another paper size, the option “scale the printing” must be bypassed. If you do not, the stone drawings will not be in a scale of 1 to 1.

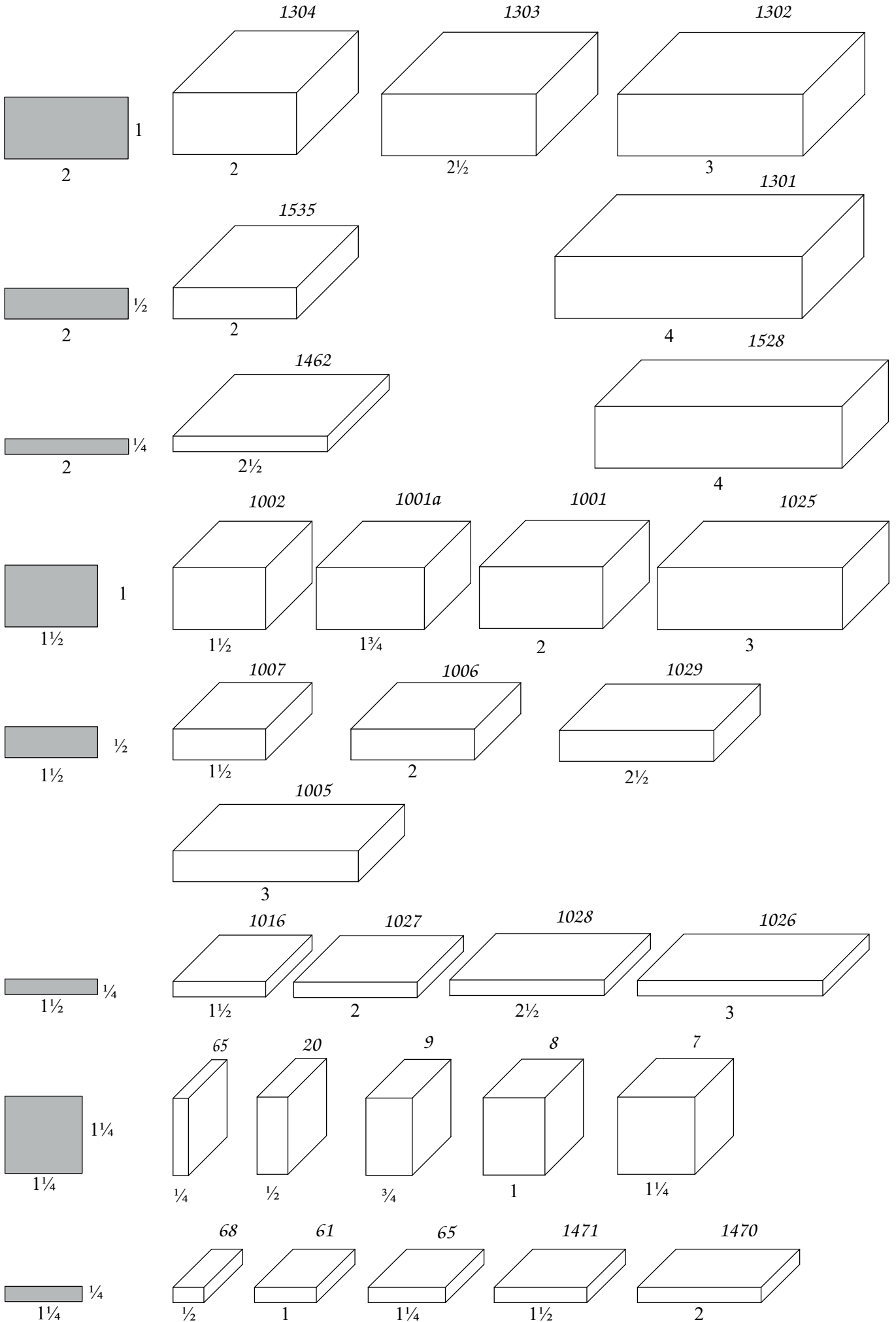
Om de gegevens in dit bestand te kunnen raadplegen is Acrobat Reader, versie 7 of hoger nodig. Standaard zullen de gegevens afgedrukt gaan worden op A4-papier

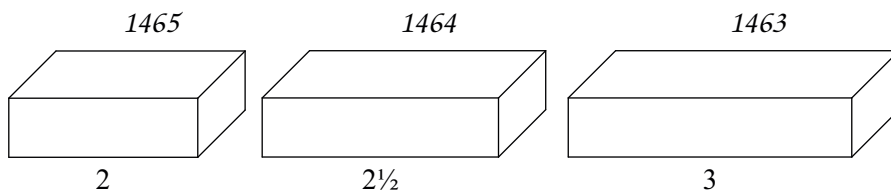
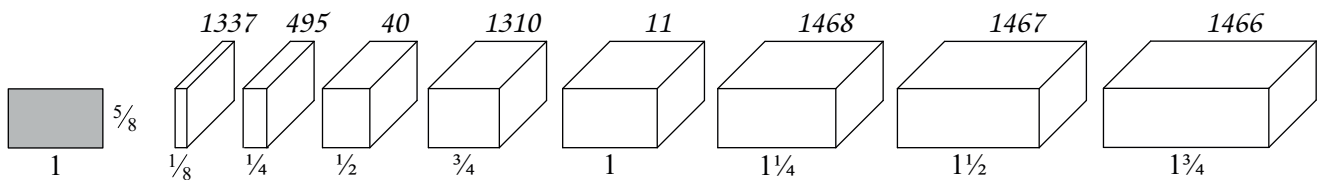
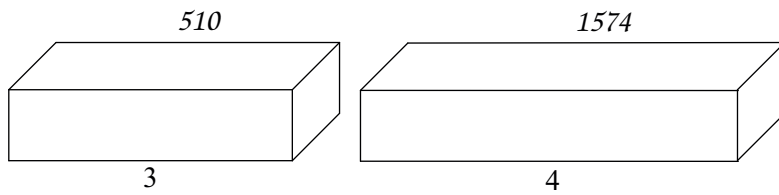
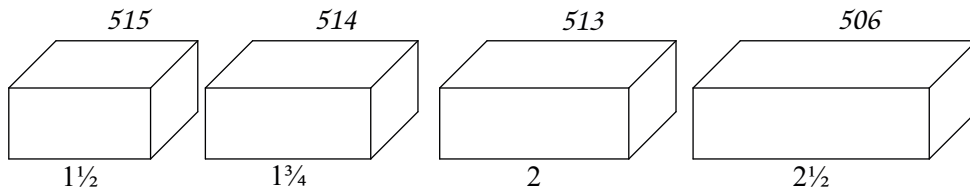
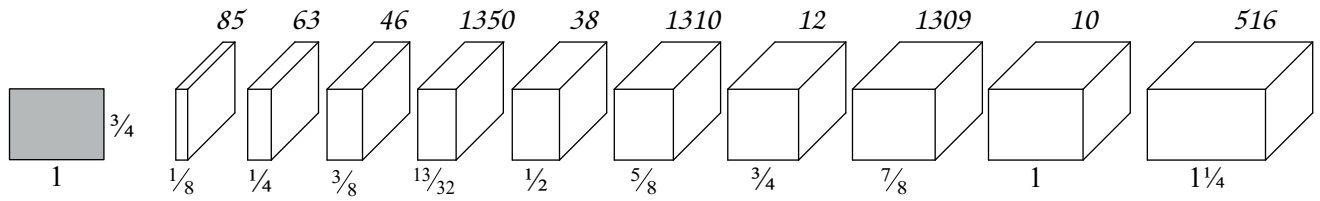
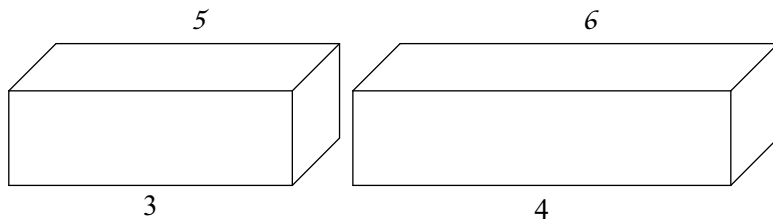
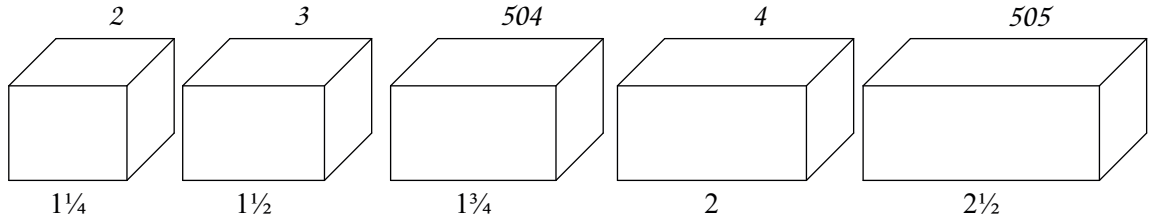
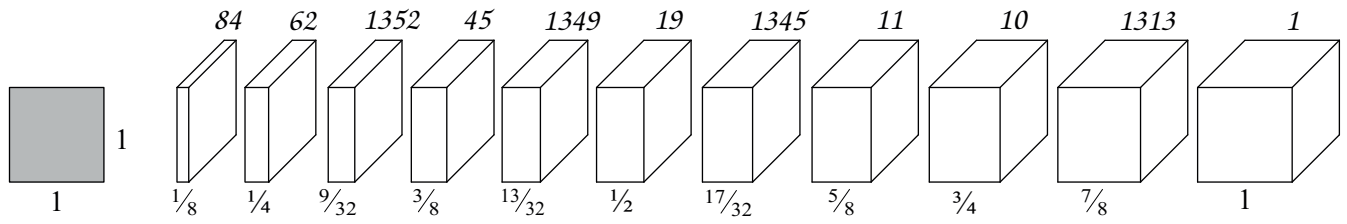
Bij het afdrukken moeten onderstaande instellingen overgenomen worden:

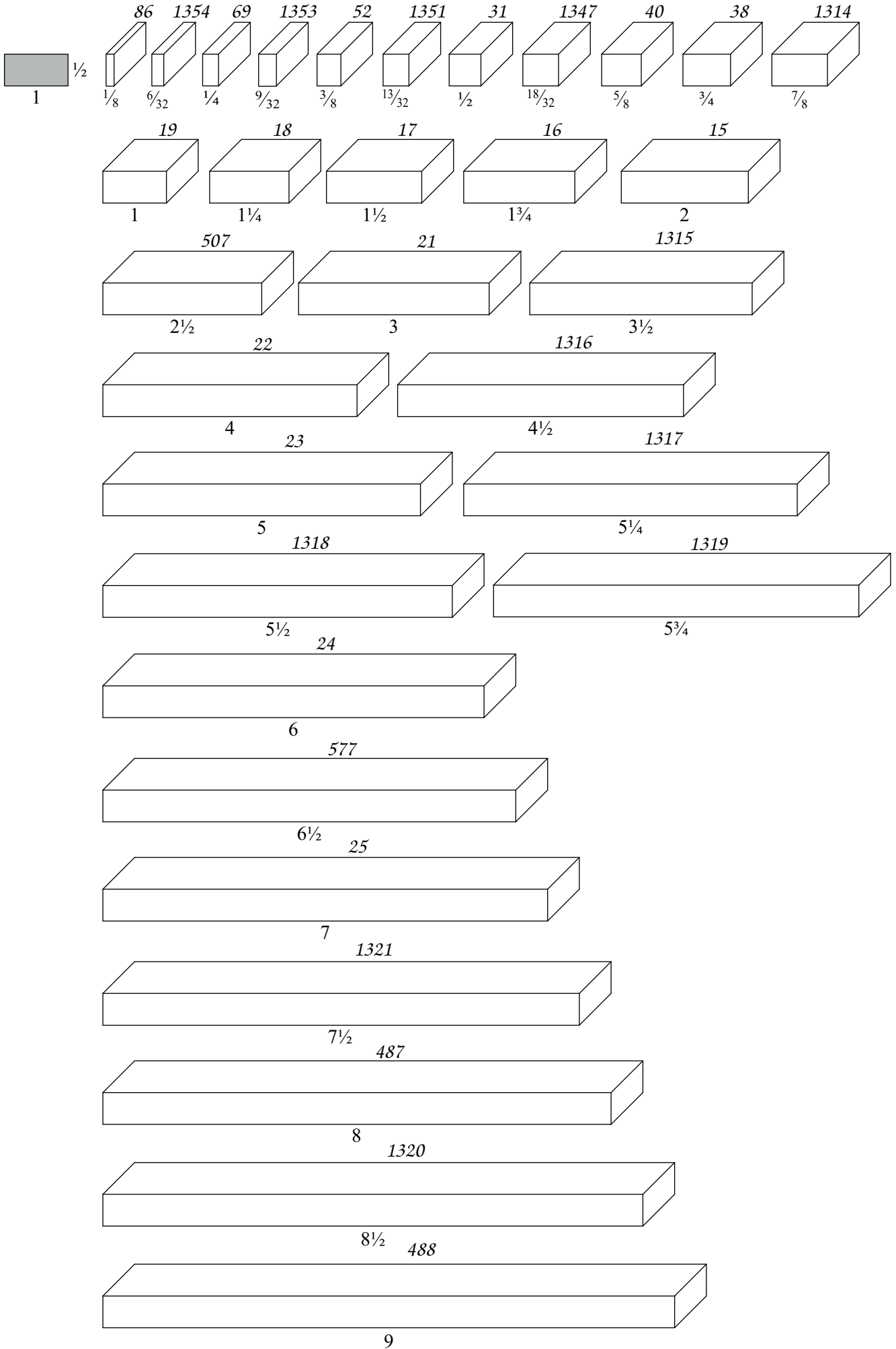


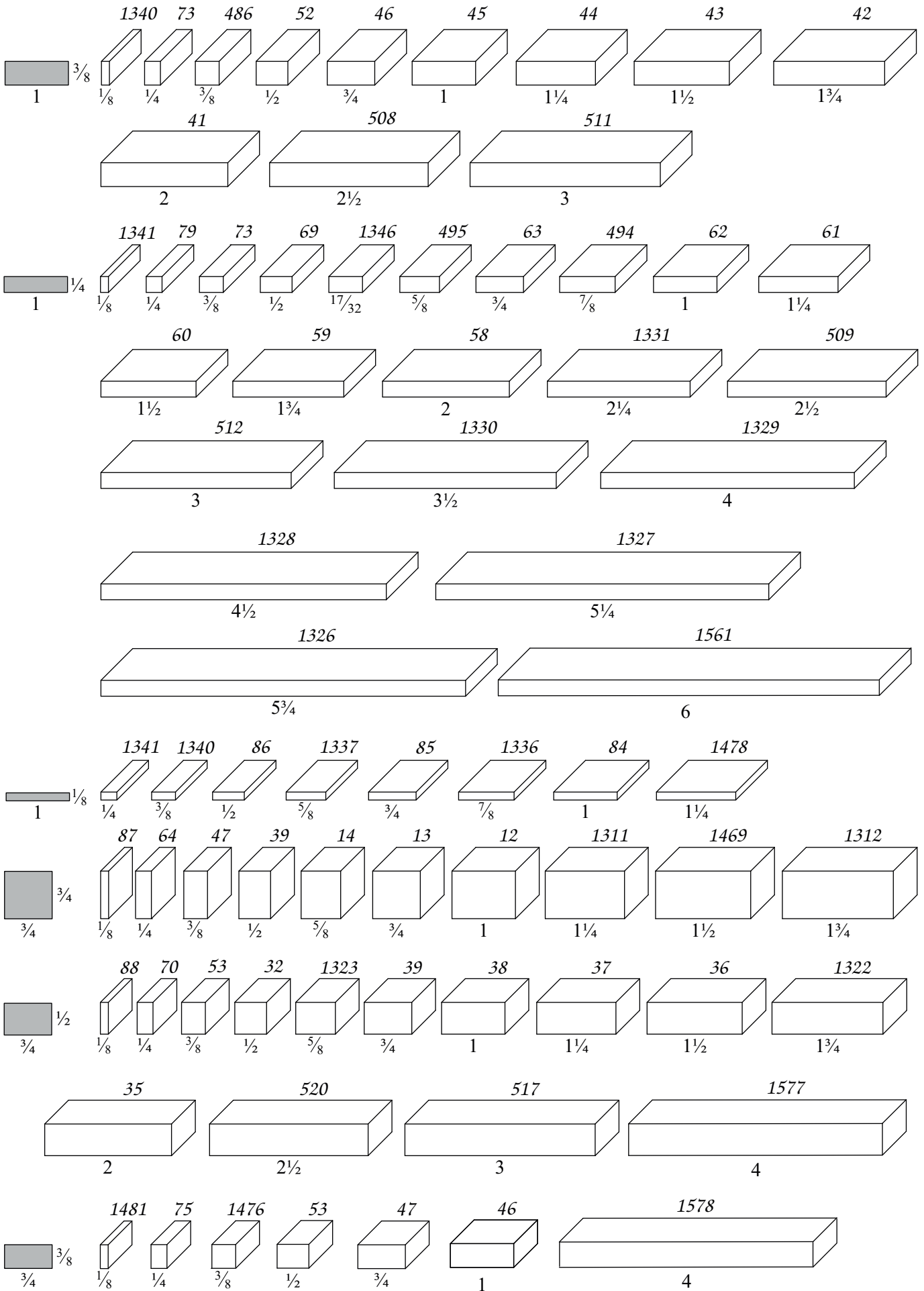
Indien een ander papierformaat gebruikt wordt moeten bij "Pagina's schalen" de opties "Aanpassen aan afdrukbaar gebied", of "Verkleinen tot afdrukbaar gebied" ingesteld worden. In dat geval zijn de tekeningen echter niet meer op schaal 1:1 !

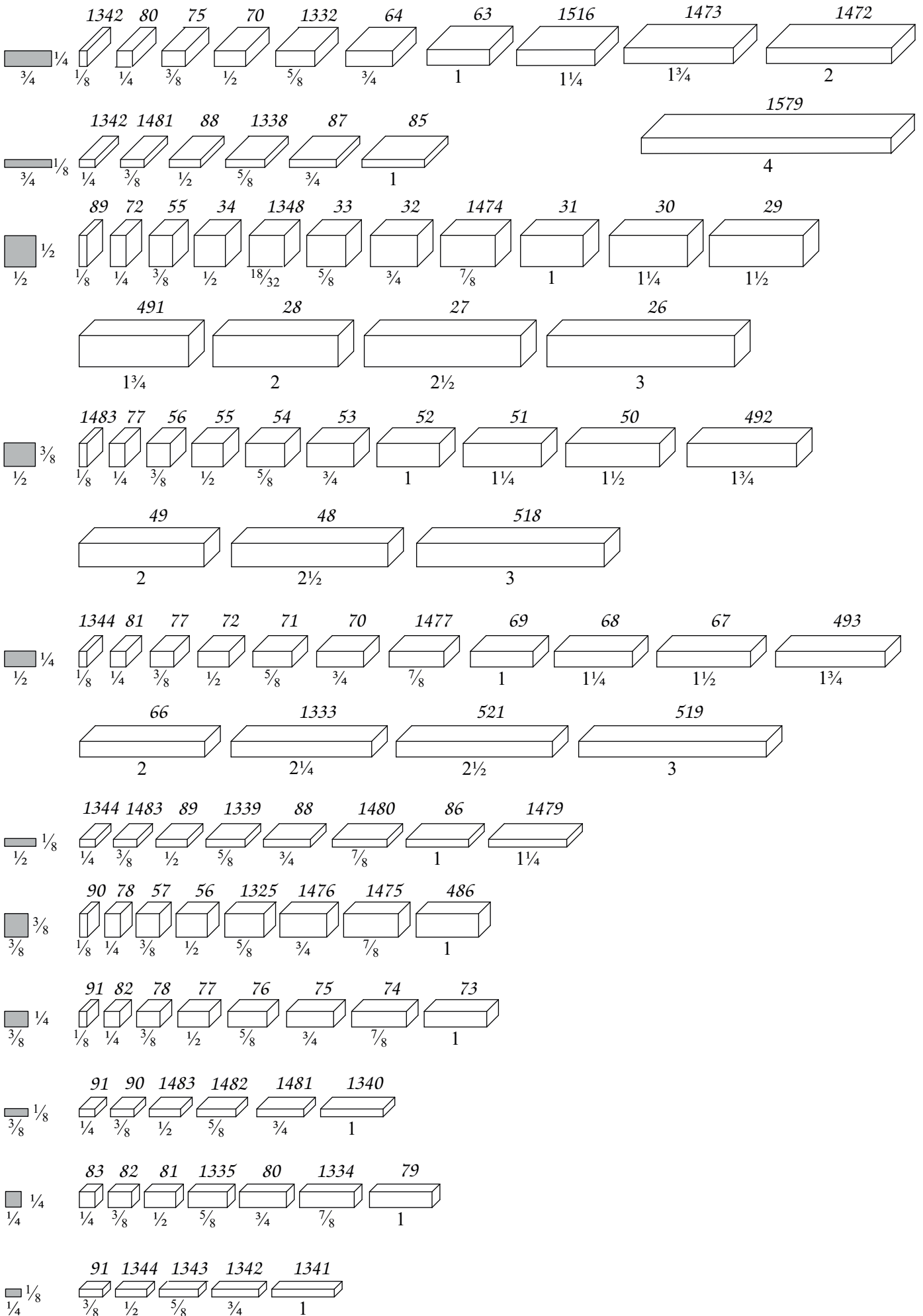
| Farbe | Abkürzung | Computer-Farbe | | | Offset-Druck CMYK | | | | |
|------------------------------|-----------|----------------|-----|-----|-------------------|----|-----|----|---|
| | | R | G | B | C | M | Y | K | |
| <i>Steine</i> | | | | | | | | | |
| rot | R | 207 | 94 | 75 | 15 | 73 | 63 | 2 |  |
| gelb | G | 232 | 229 | 178 | 13 | 5 | 38 | 0 |  |
| blau | B | 143 | 146 | 169 | 50 | 41 | 21 | 0 |  |
| grau | Gr | 128 | 128 | 128 | 55 | 45 | 42 | 7 |  |
| grün | Gn oder V | 180 | 220 | 170 | 36 | 0 | 42 | 0 |  |
| schwarz | S | 50 | 50 | 50 | 72 | 65 | 61 | 59 |  |
| <i>Täfelchenlegen</i> | | | | | | | | | |
| rot | R | 220 | 100 | 92 | 8 | 72 | 57 | 1 |  |
| gelb | G | 243 | 203 | 133 | 5 | 23 | 54 | 0 |  |
| blau | B | 70 | 96 | 153 | 80 | 64 | 11 | 1 |  |
| schwarz | S | 50 | 50 | 50 | 72 | 65 | 61 | 59 |  |
| weiß | W | 196 | 178 | 160 | 27 | 30 | 36 | 0 |  |
| <i>Vexier</i> | | | | | | | | | |
| rot | R | 207 | 27 | 18 | 11 | 97 | 100 | 3 |  |
| gelb | G | 243 | 180 | 56 | 3 | 33 | 84 | 0 |  |
| blau | B | 70 | 96 | 153 | 80 | 64 | 11 | 1 |  |
| grün | Gn oder V | 145 | 173 | 92 | 51 | 16 | 75 | 1 |  |
| schwarz | S | 50 | 50 | 50 | 72 | 65 | 61 | 59 |  |
| weiß | W | 255 | 255 | 255 | 0 | 0 | 0 | 0 |  |
| braun | Br | 149 | 82 | 51 | 32 | 69 | 84 | 24 |  |
| <i>Landhaus-Dach</i> | | | | | | | | | |
| rot | R | 168 | 86 | 70 | 29 | 72 | 68 | 15 |  |
| blau | B | 95 | 105 | 119 | 67 | 53 | 39 | 13 |  |

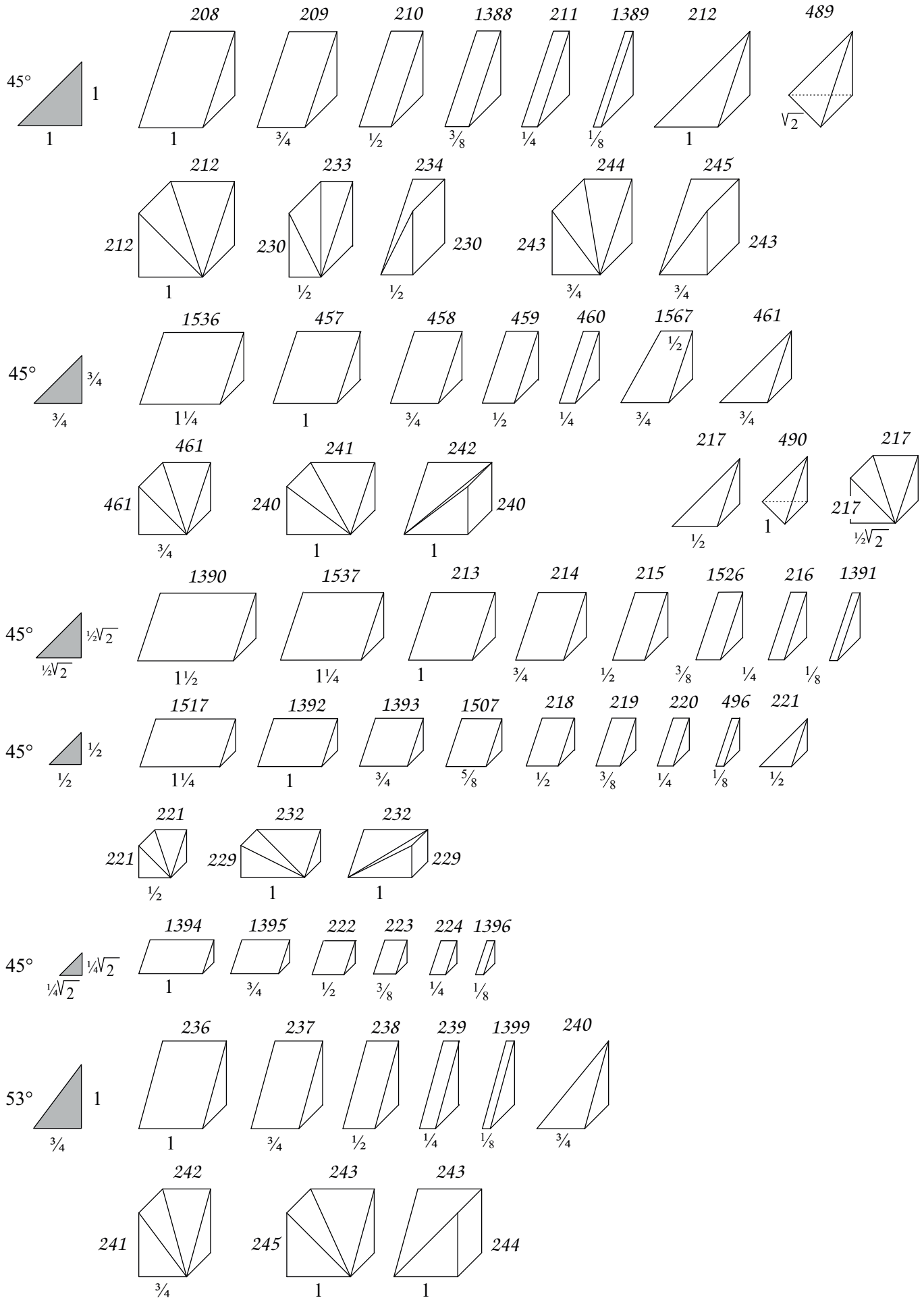


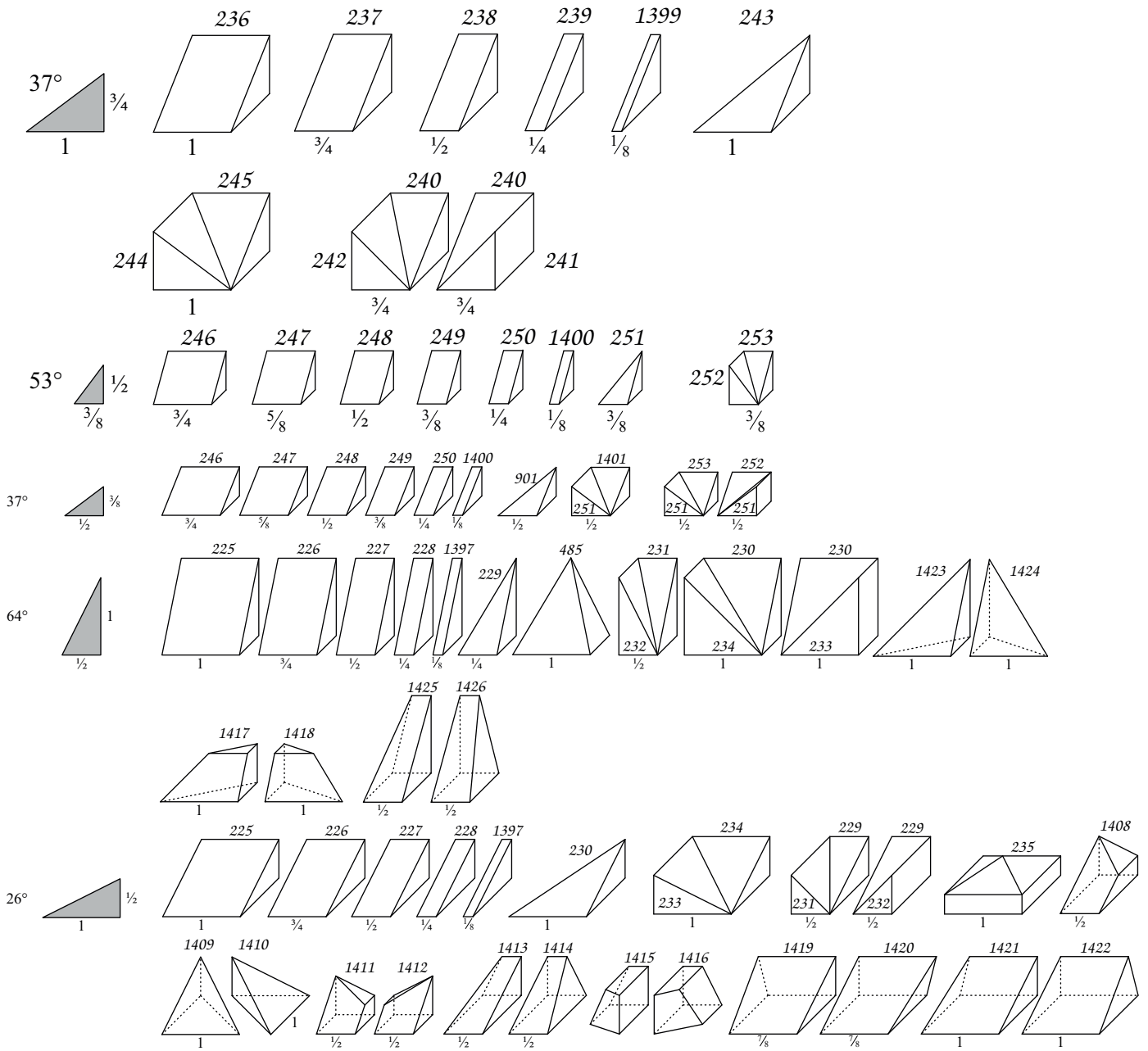


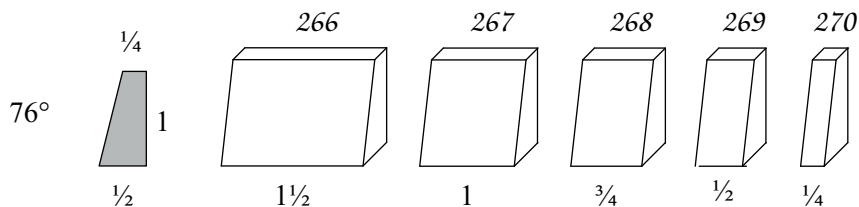
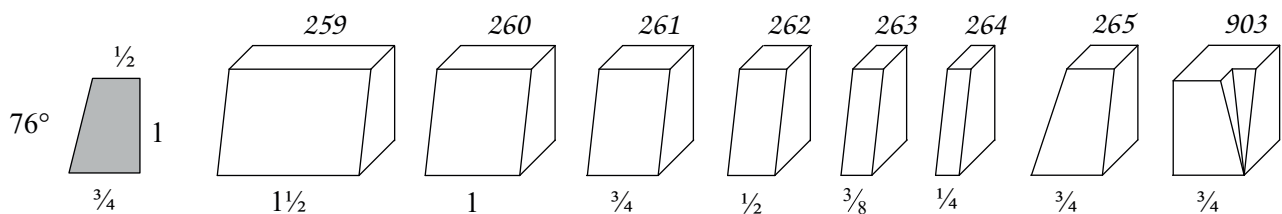
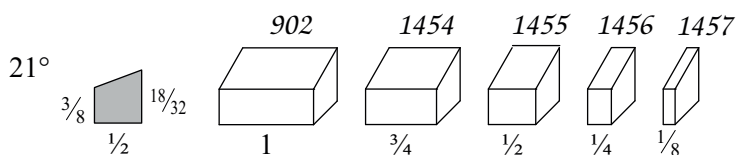
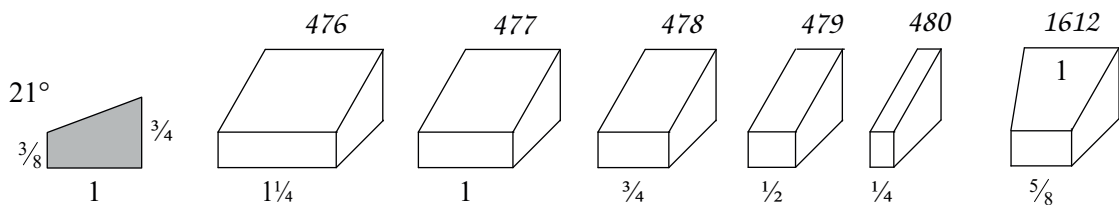
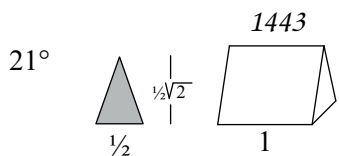
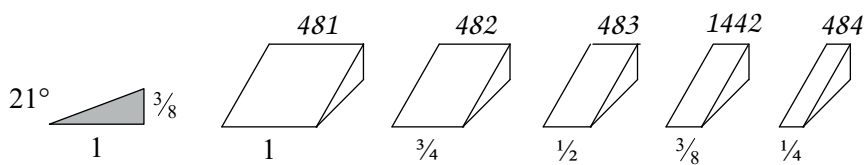
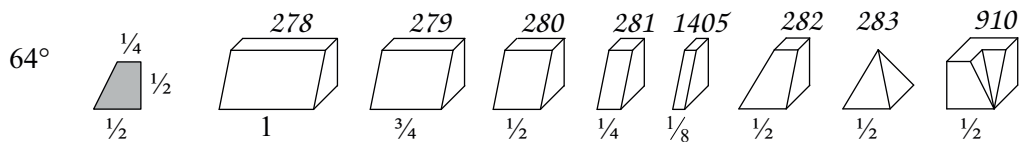
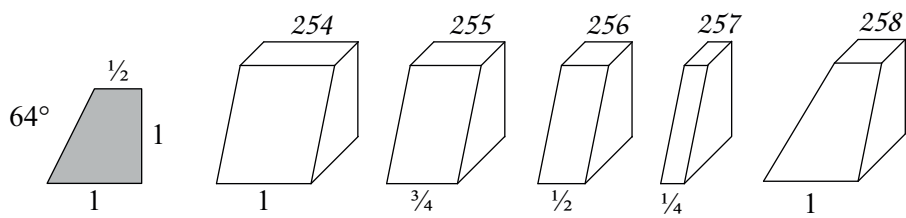


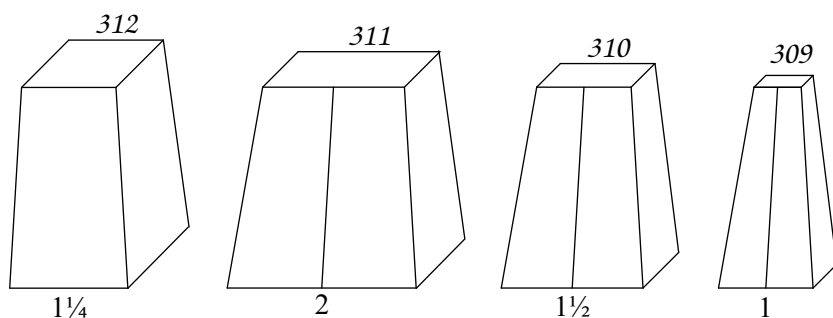
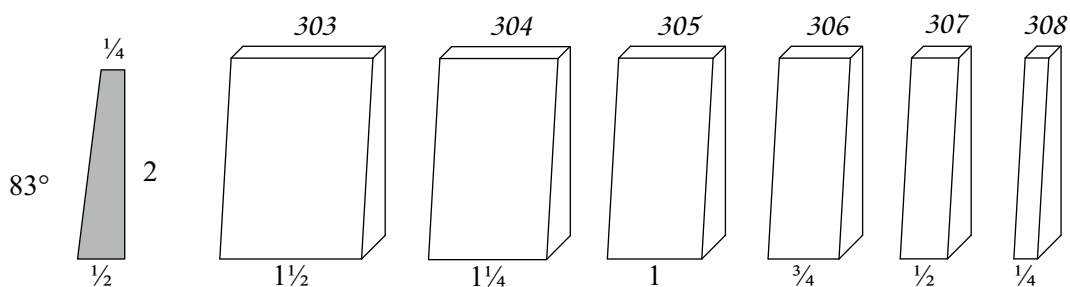
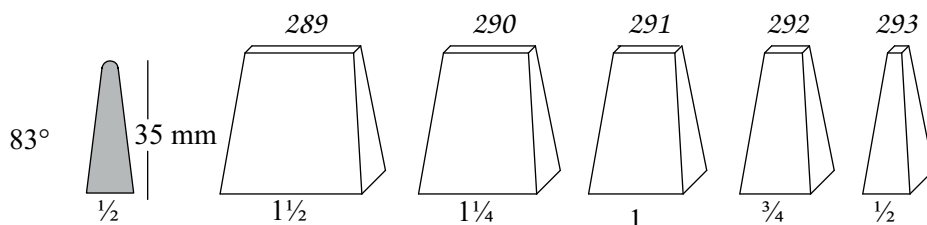
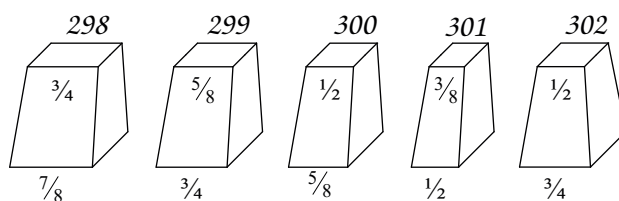
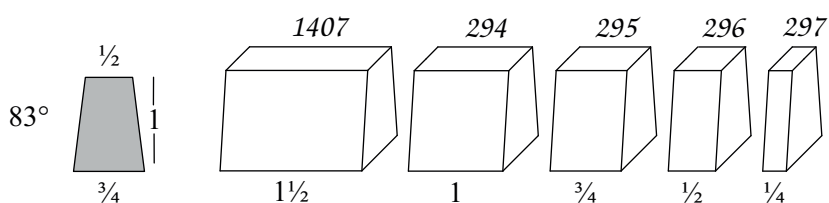
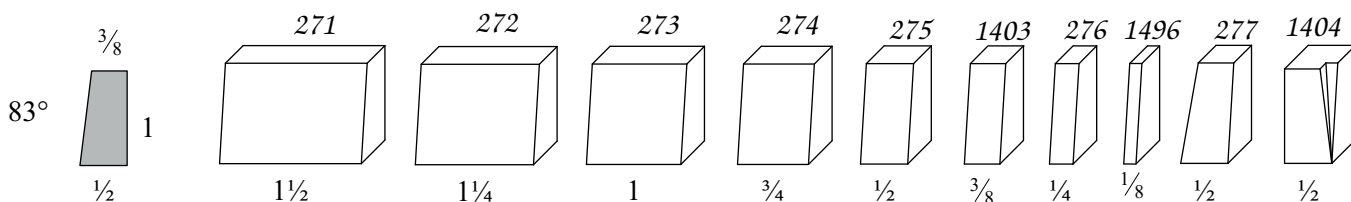
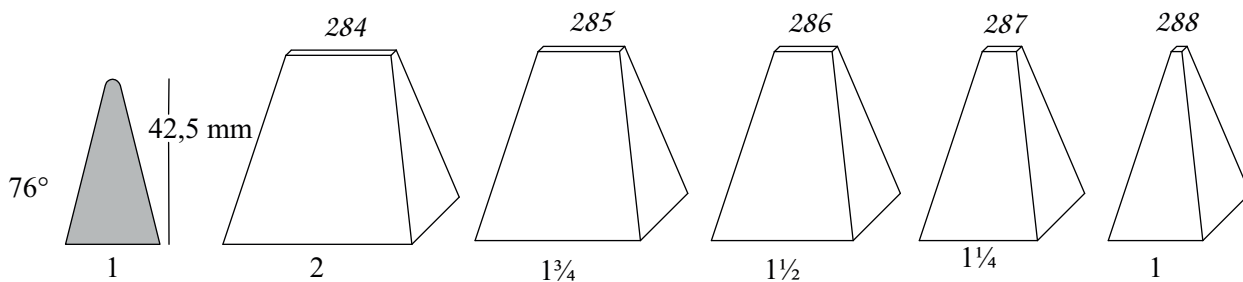


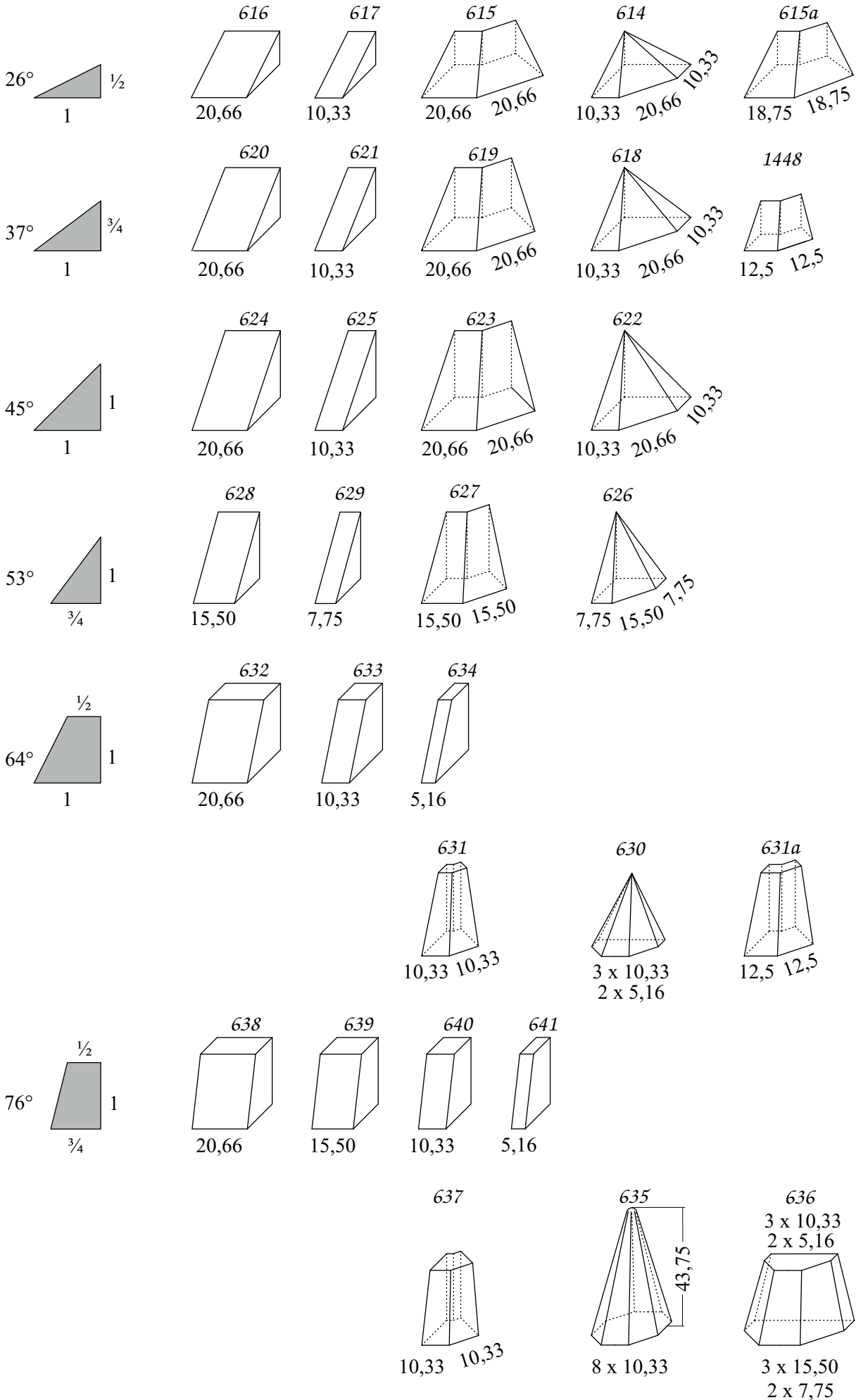


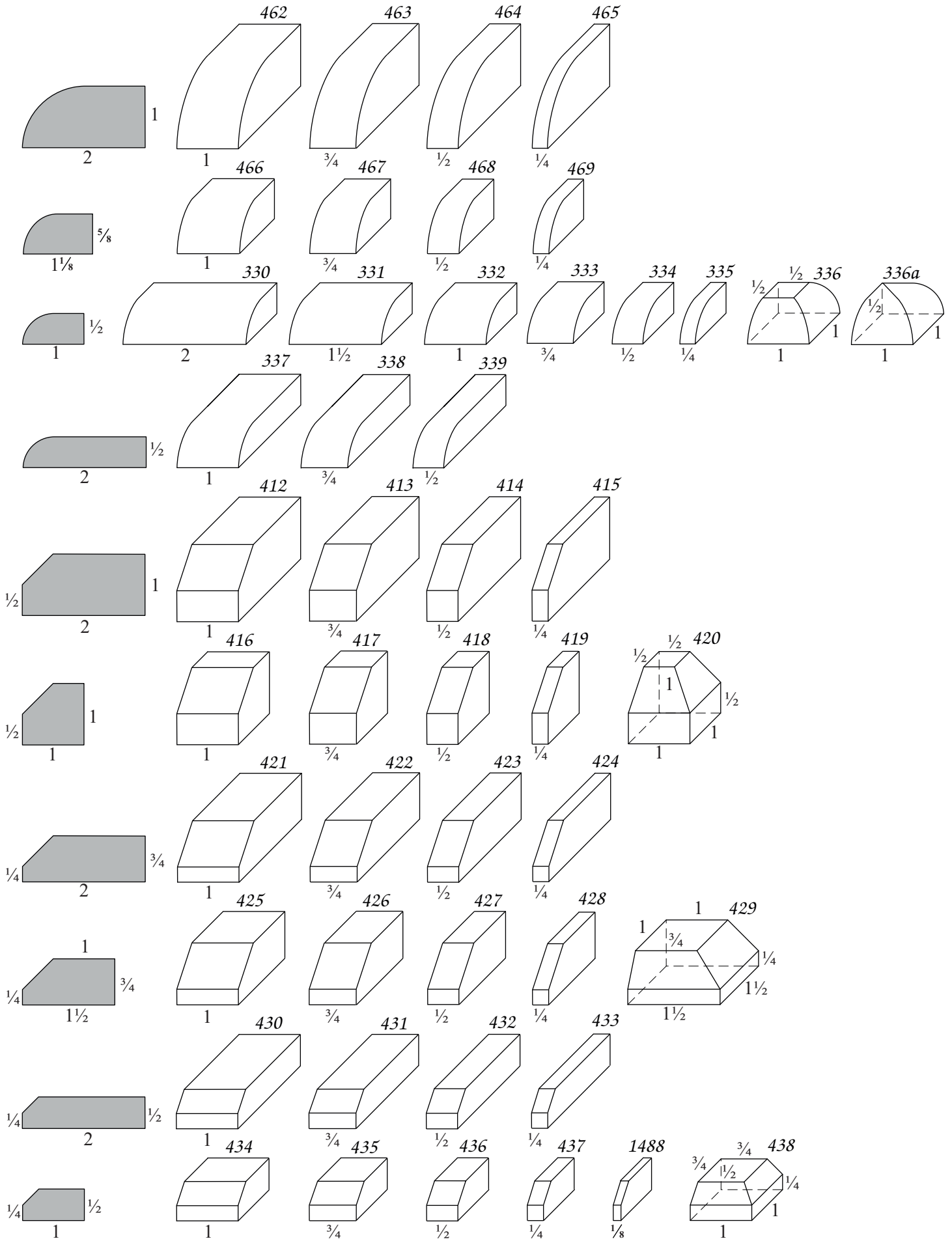


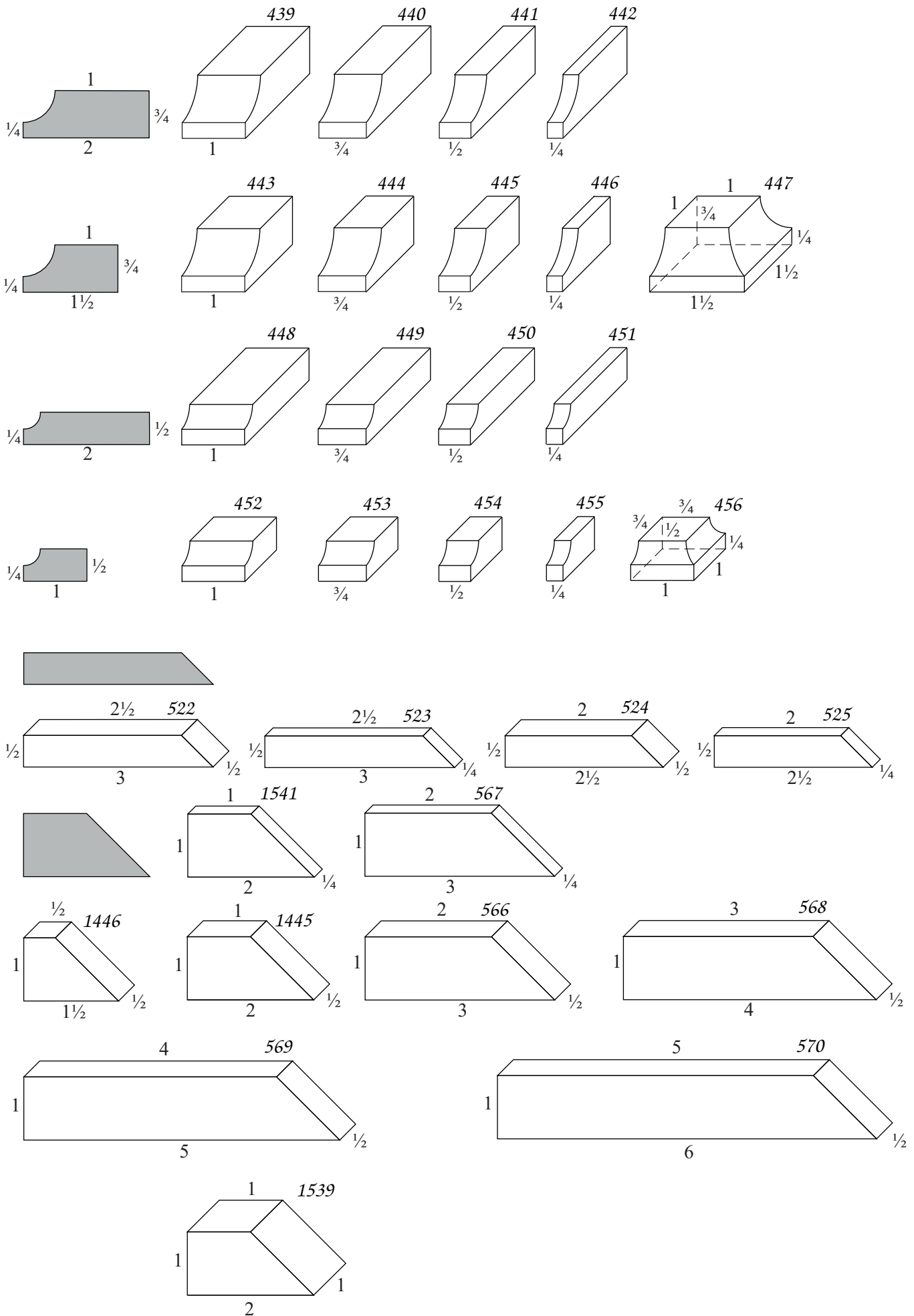


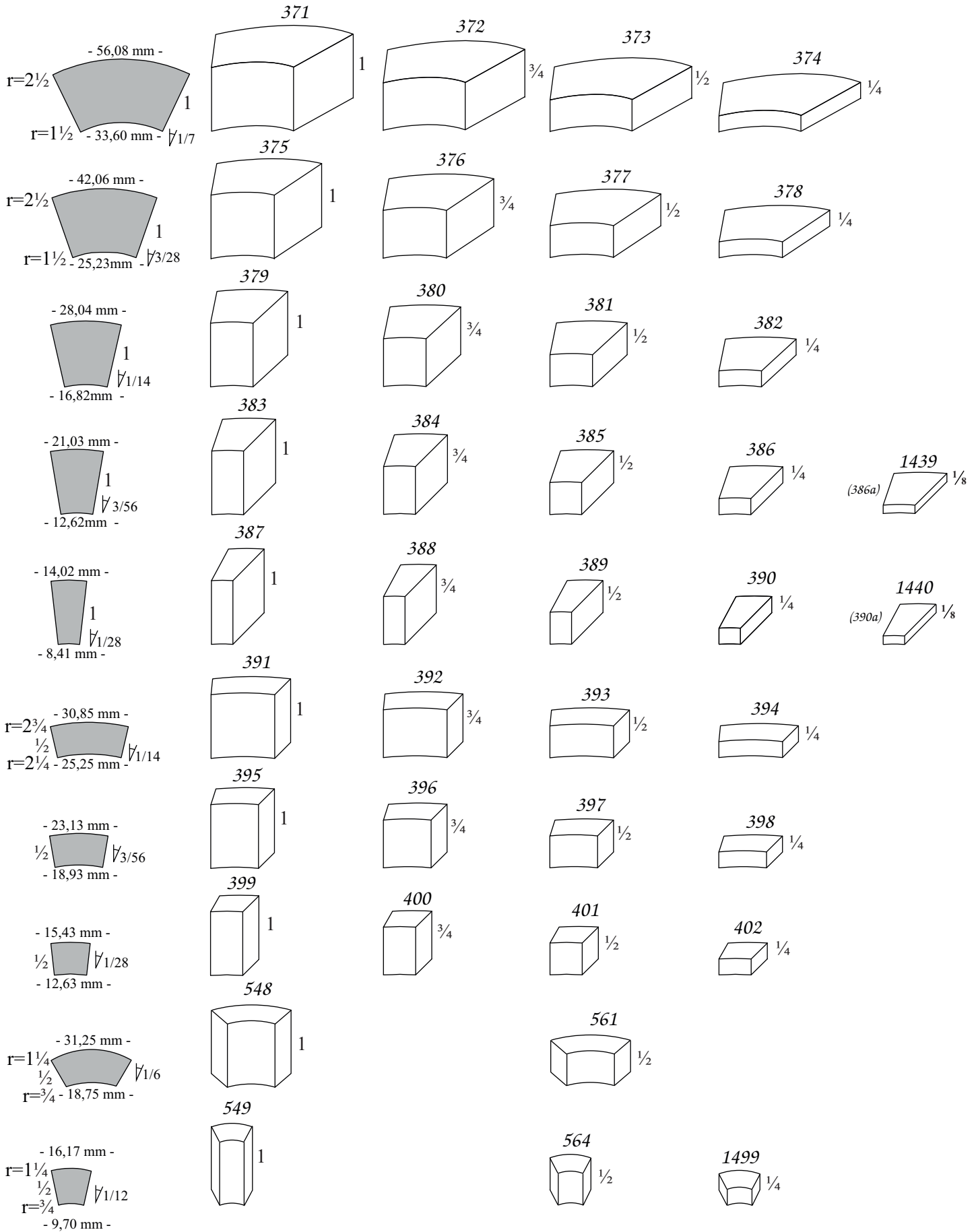


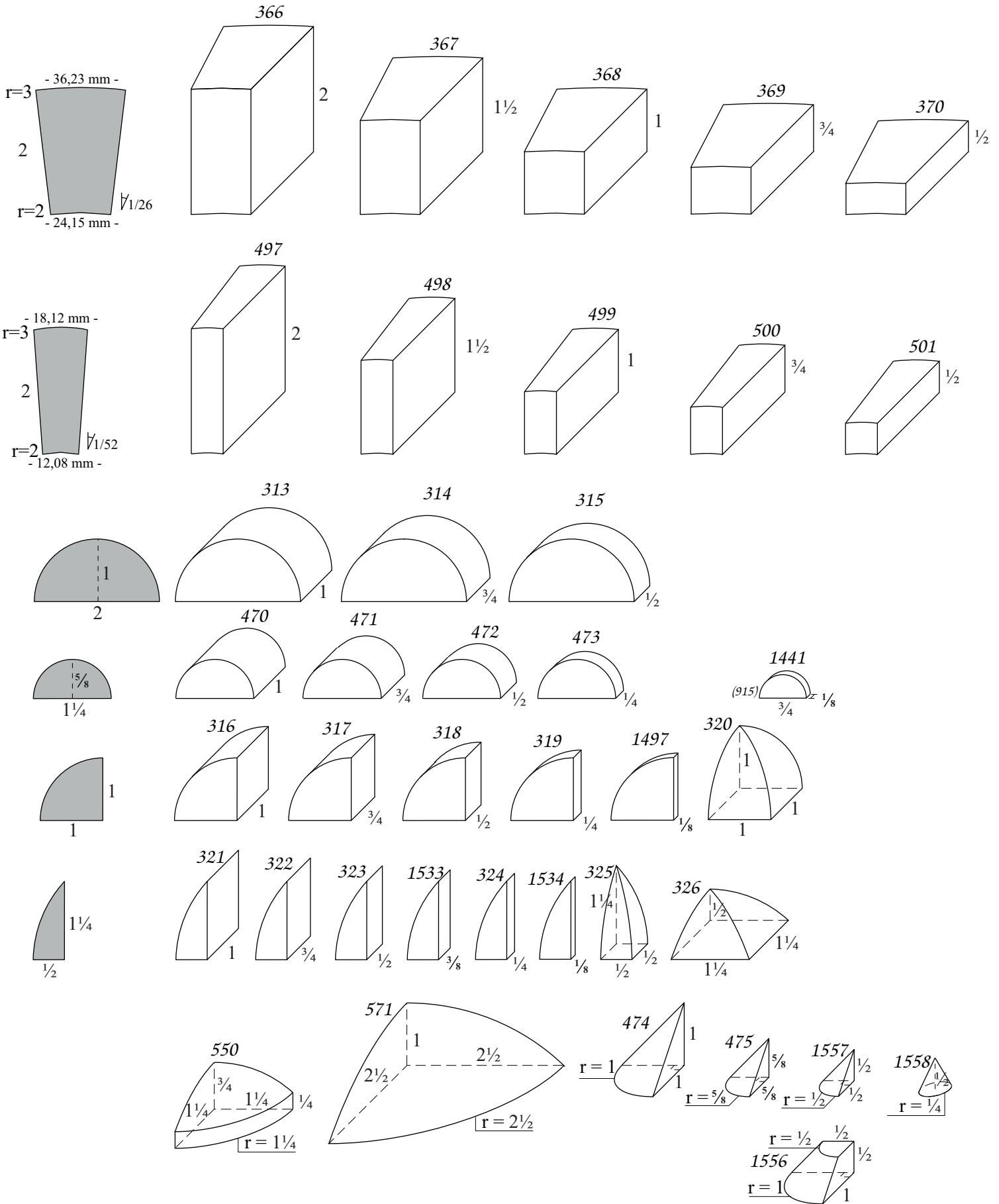


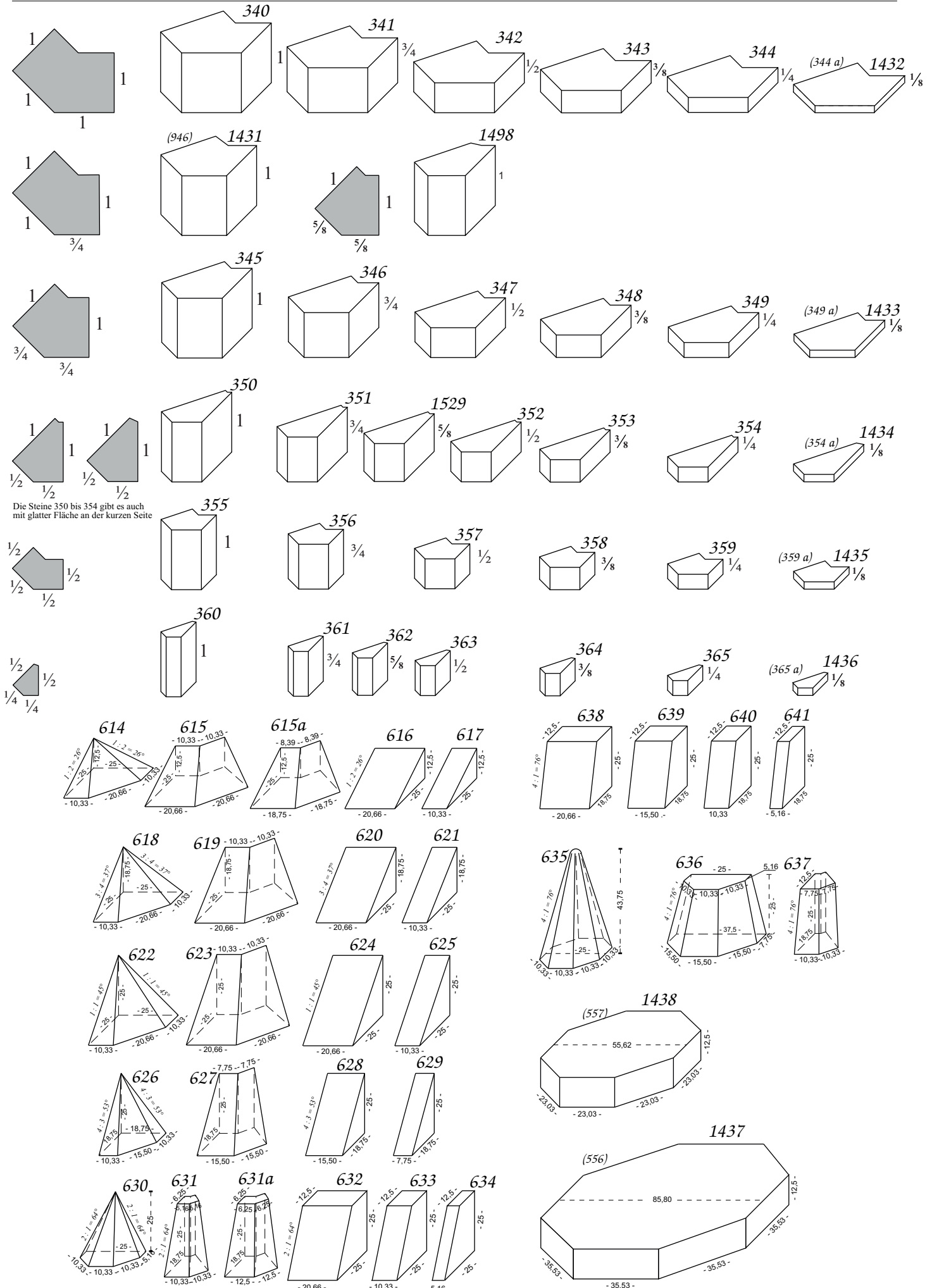












529 $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 530 $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 $\frac{1}{2}$ 1 529 - 530 sind dreiseitig geprägt, links, vorne, rechts

528 $\frac{3}{4}$ $\frac{1}{2}$ 1 527 $\frac{1}{2}$ $\frac{1}{2}$ 1 526 $\frac{1}{2}$ $\frac{1}{2}$ 1 526 - 528 sind vierseitig geprägt

531 $\frac{3}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 $\frac{1}{2}$ 532 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 $\frac{1}{2}$ 533 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{4}$ 1 $\frac{1}{2}$ 531 - 533 sind vierseitig geprägt

876 2 1 877 $1\frac{1}{2}$ 1 878 $1\frac{1}{4}$ 1 879 1 1 880 $\frac{3}{4}$ 1 876 - 880 sind zweiseitig geprägt, vorne und hinten

897 1 1 897 zweiseitig geprägt, vorne und eine Seite

881 2 $\frac{1}{2}$ 1 882 $1\frac{1}{2}$ $\frac{1}{2}$ 1 883 $1\frac{1}{4}$ $\frac{1}{2}$ 1 884 1 $\frac{1}{2}$ 1 885 $\frac{1}{2}$ $\frac{1}{2}$ 1 881 - 885 sind zweiseitig geprägt, vorne und hinten

534 2 $\frac{1}{2}$ 1 534 dreiseitig geprägt, links, vorne, rechts

535 1 $\frac{1}{2}$ 1 899 $\frac{1}{2}$ $\frac{1}{2}$ 1 535, 899 sind zweiseitig geprägt, vorne und eine Seite

1500 2 $\frac{1}{4}$ 1 1501 1 $\frac{1}{4}$ 1 1450 $\frac{1}{2}$ $\frac{1}{4}$ 1 1500, 1501, 1450 sind einseitig geprägt

886 2 $\frac{1}{2}$ 1 887 $1\frac{1}{2}$ $\frac{1}{2}$ 1 888 $1\frac{1}{4}$ $\frac{1}{2}$ 1 889 1 $\frac{1}{2}$ 1 886 - 890 sind zweiseitig geprägt, vorne und hinten

890 $\frac{1}{4}$ 1 $\frac{1}{2}$

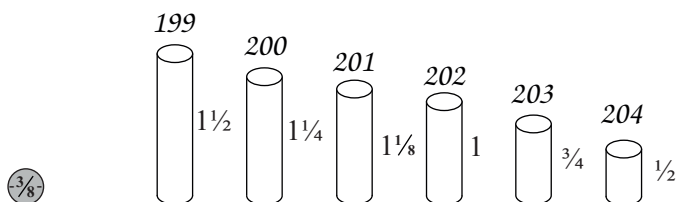
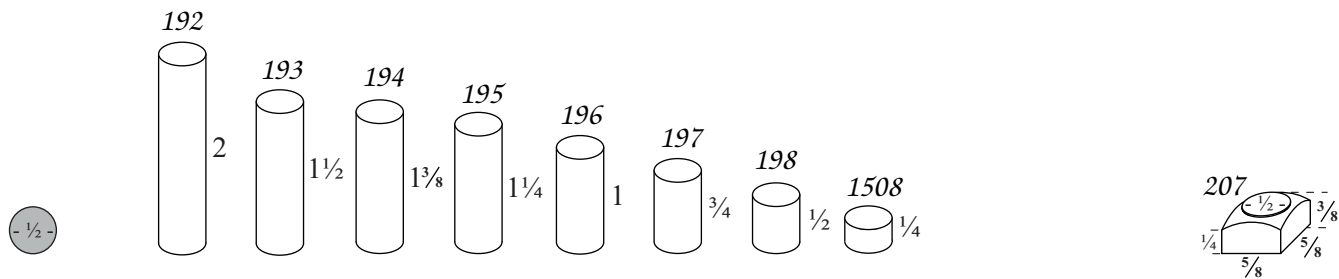
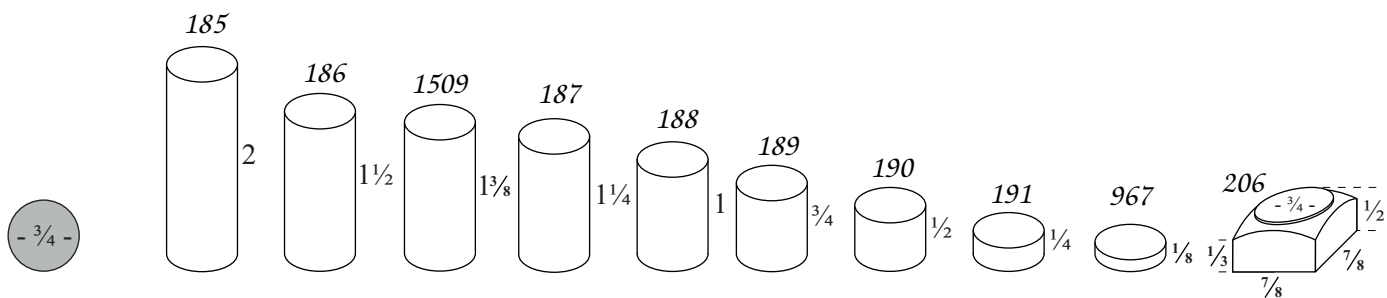
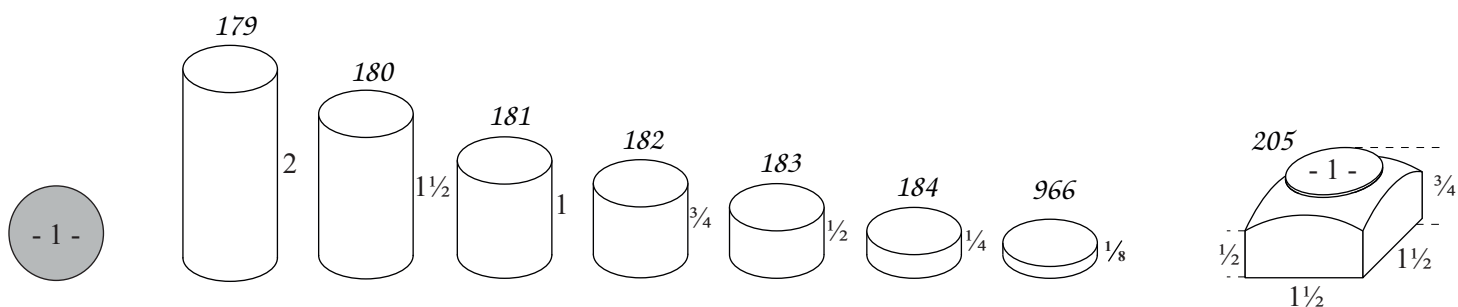
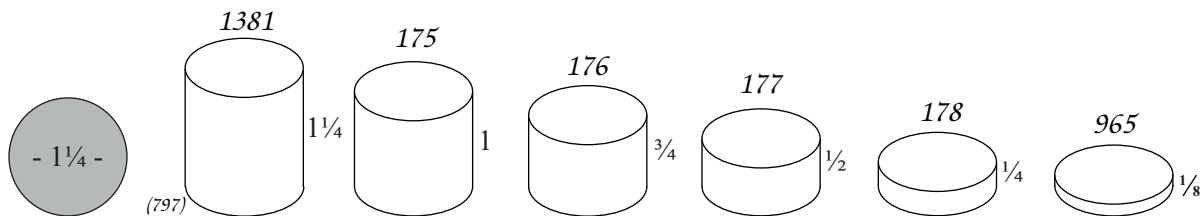
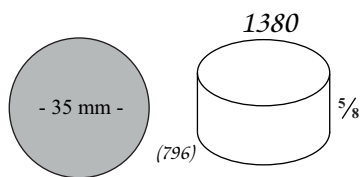
898 1 $\frac{1}{2}$ 1 900 $\frac{1}{2}$ $\frac{1}{2}$ 1 898, 900 sind zweiseitig geprägt, vorne und eine Seite

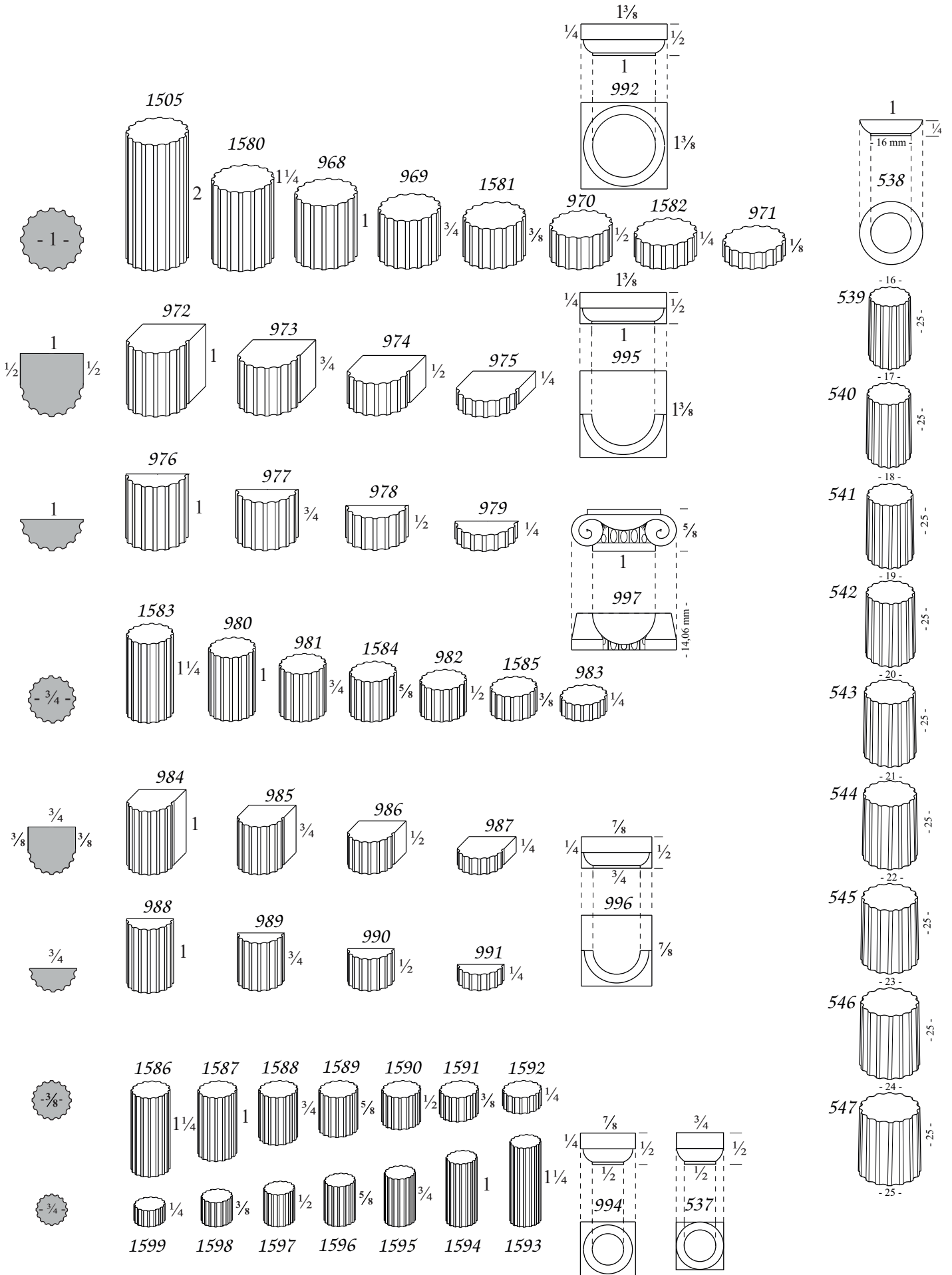
891 2 $\frac{1}{2}$ $\frac{1}{2}$ 1 892 $1\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 893 $1\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 894 $\frac{3}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 895 $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ 1 891 - 896 sind zweiseitig geprägt, vorne und hinten

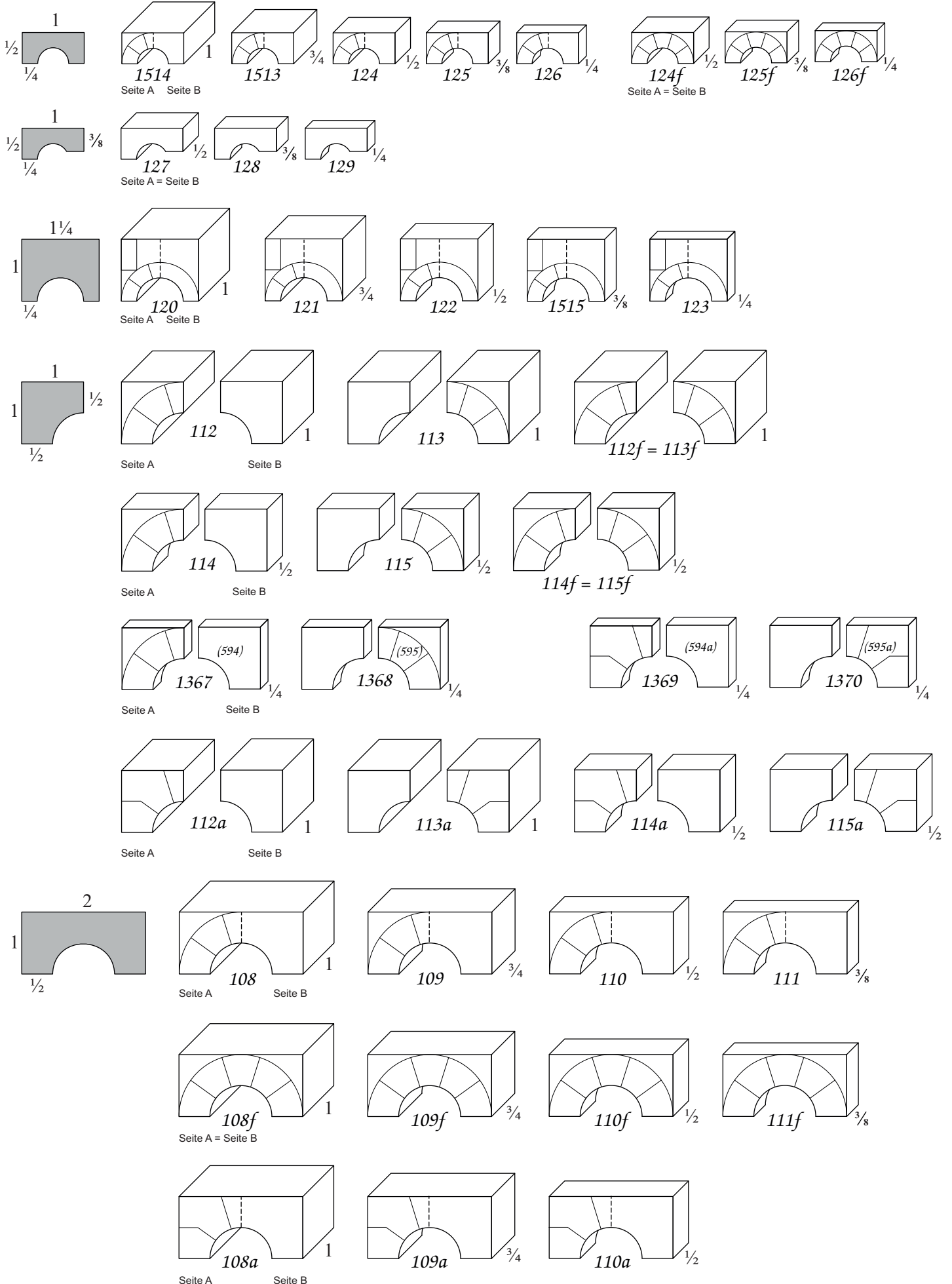
896 $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{2}$ 1

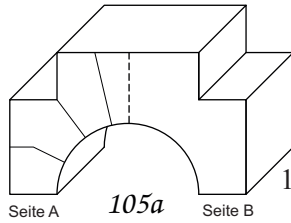
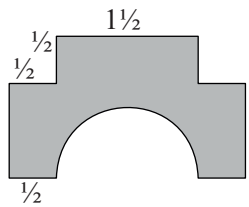
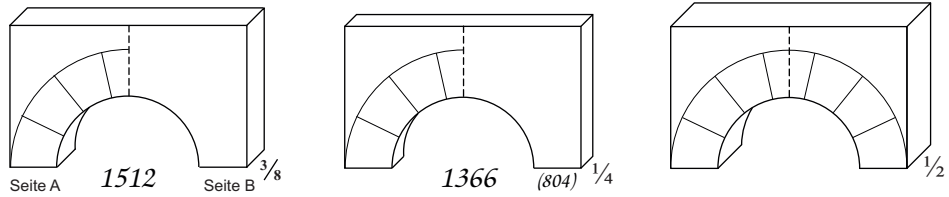
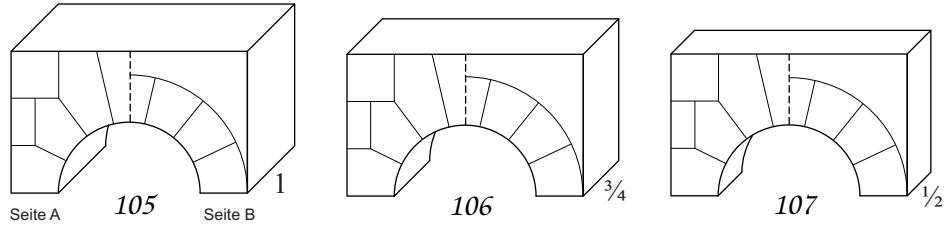
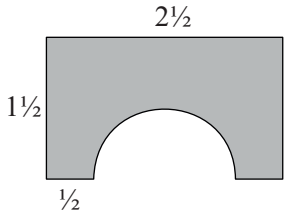
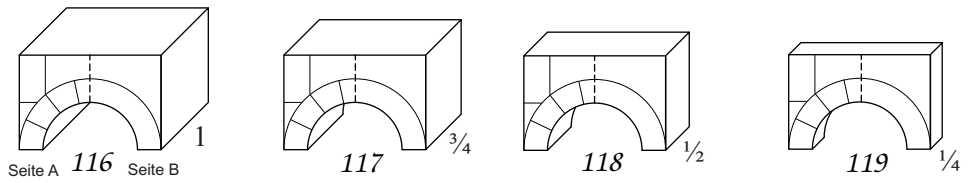
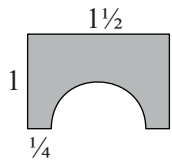
1452 $\frac{1}{2}$ $\frac{1}{4}$ 1 1453 $\frac{1}{2}$ $\frac{1}{4}$ 1 1452, 1453 sind einseitig geprägt

1451 $\frac{1}{4}$ $\frac{1}{8}$ 1 1502 $\frac{3}{4}$ $\frac{1}{8}$ 1 1503 $\frac{1}{2}$ $\frac{1}{8}$ 1 1504 $\frac{1}{2}$ $\frac{1}{8}$ 1 1451, 1502 - 1504 sind einseitig geprägt

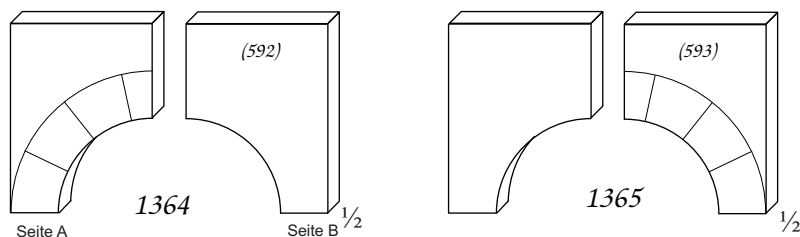
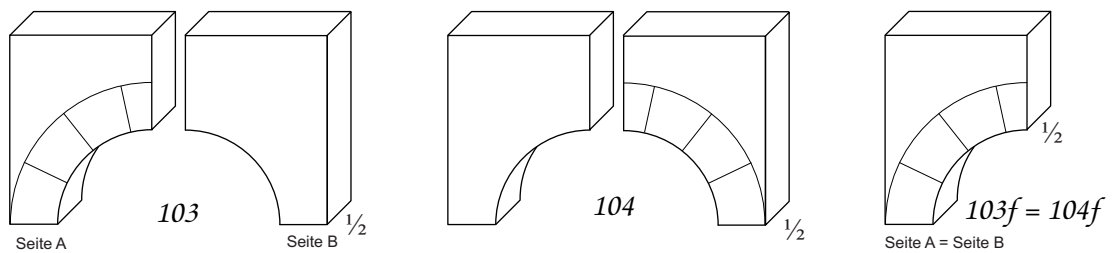
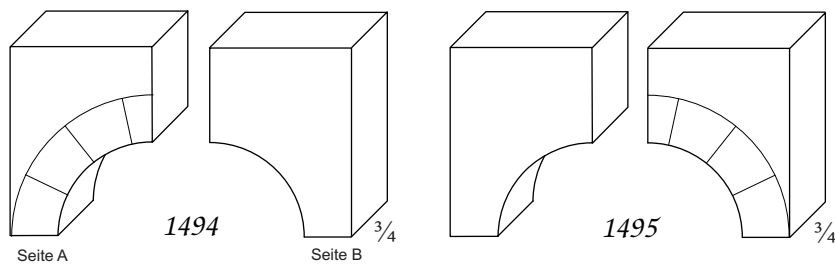
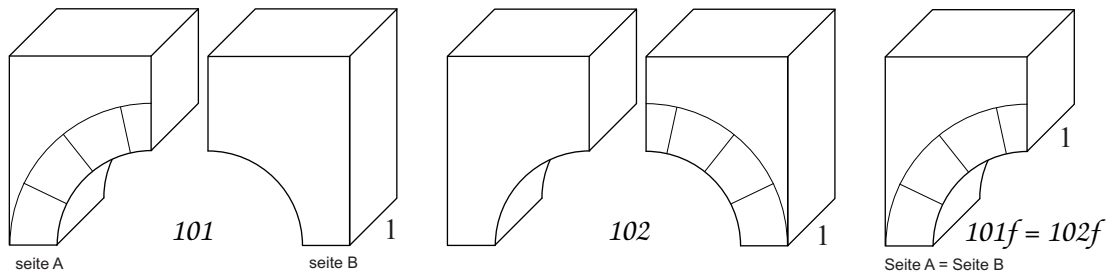
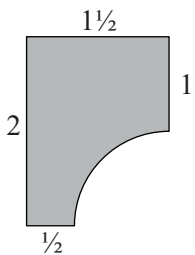


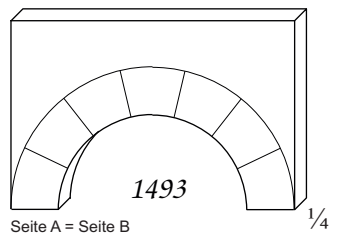
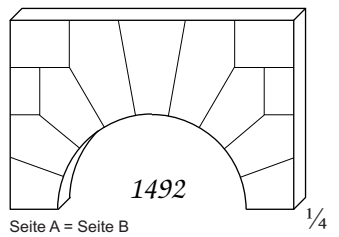
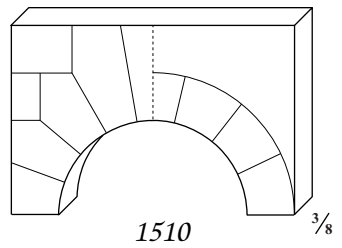
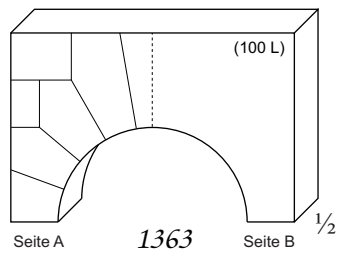
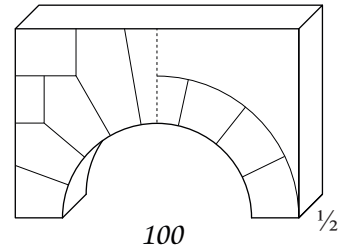
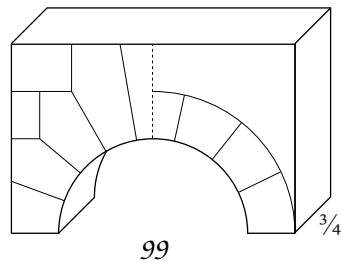
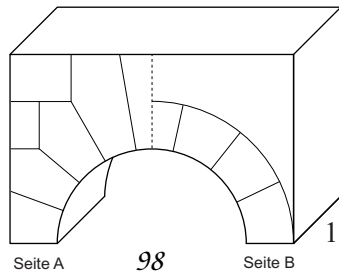
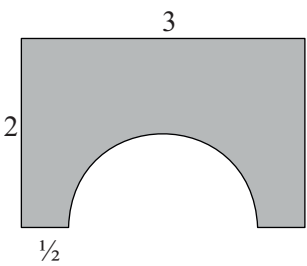
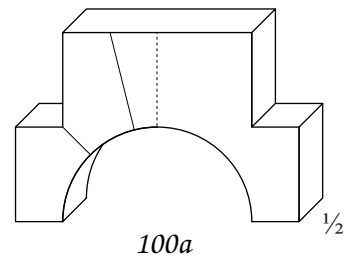
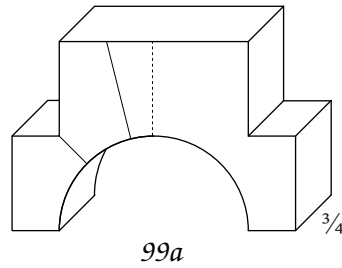
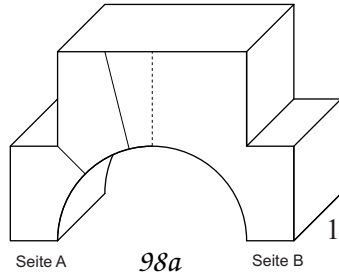
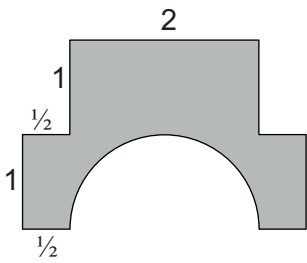
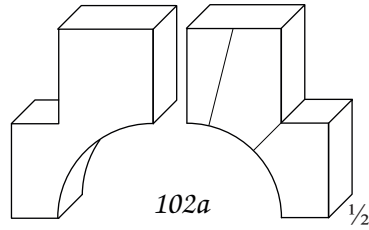
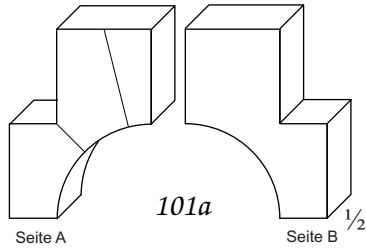
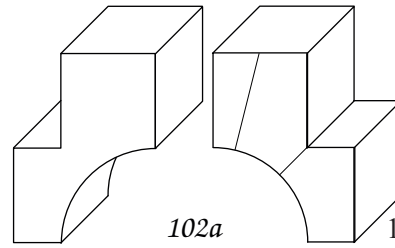
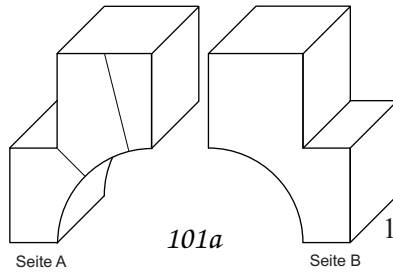
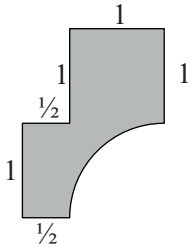


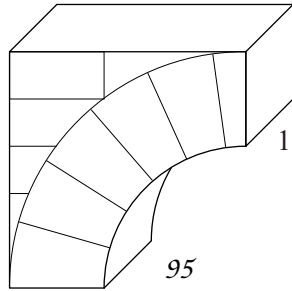
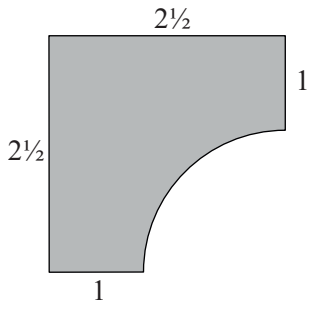




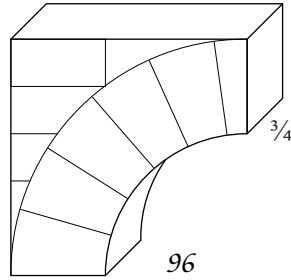
107f
beidseitig keine Gravur ???



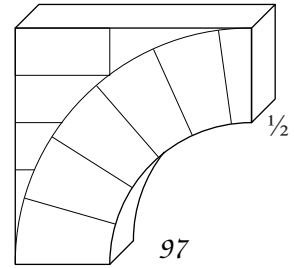




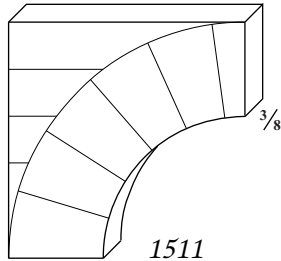
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96

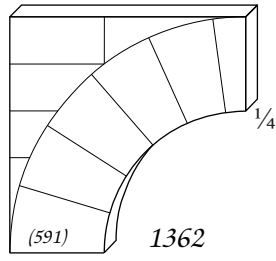


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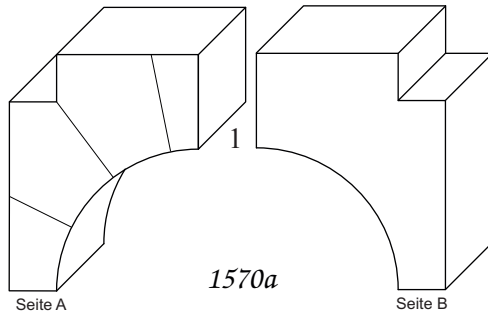
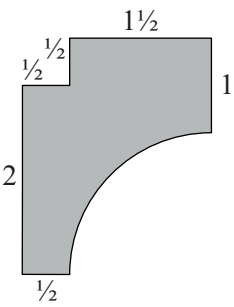


1511

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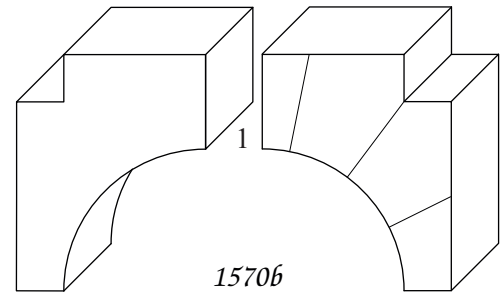
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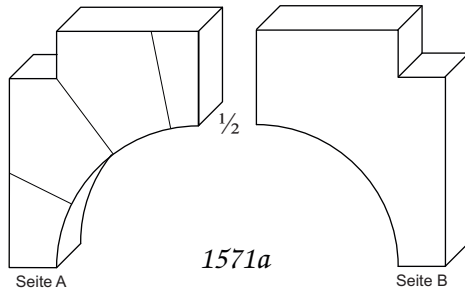
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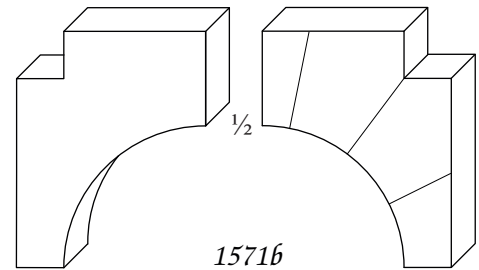
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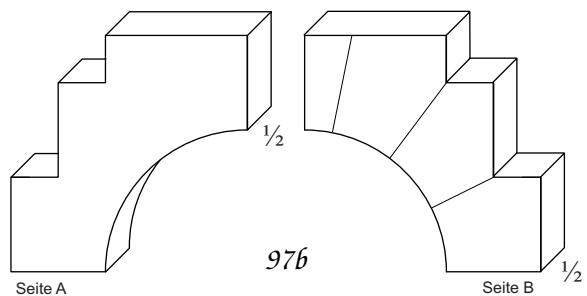
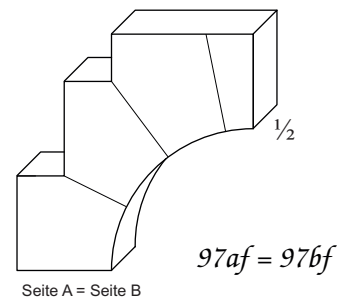
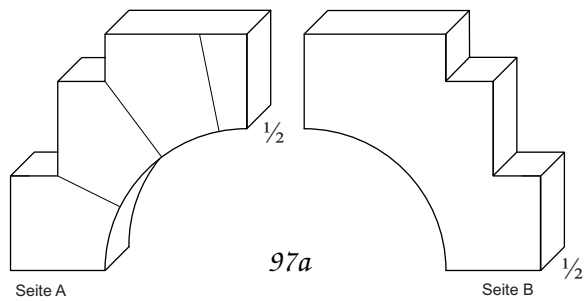
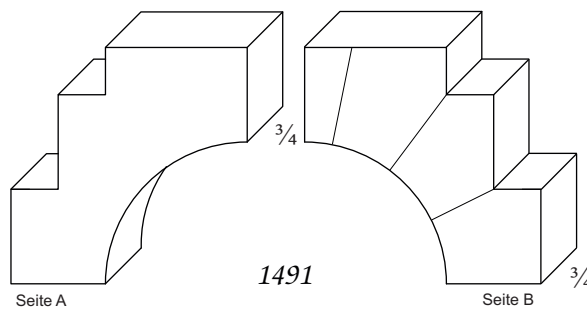
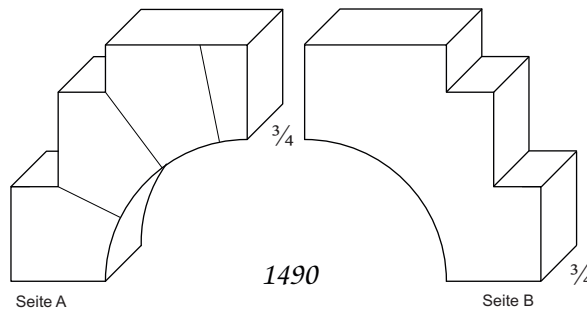
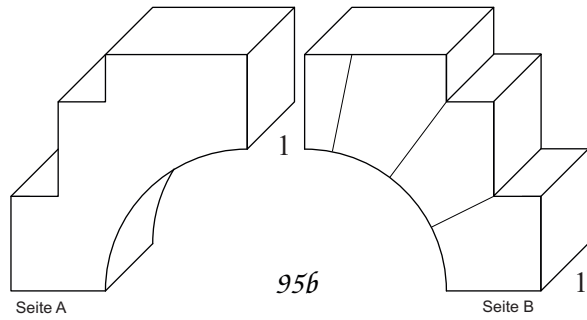
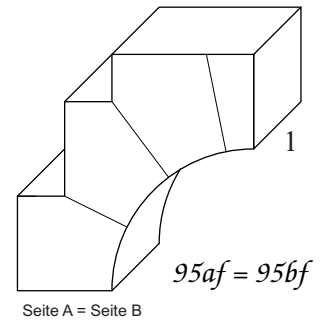
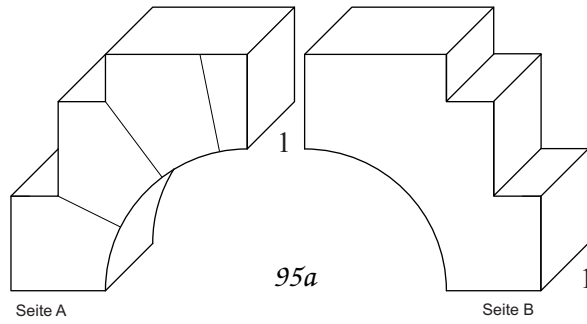
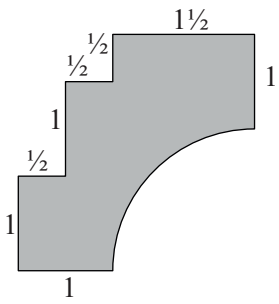
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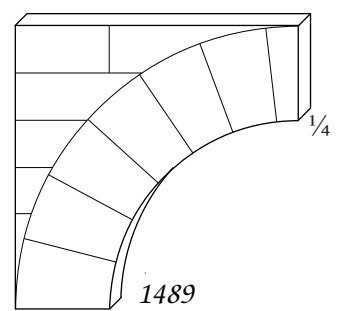
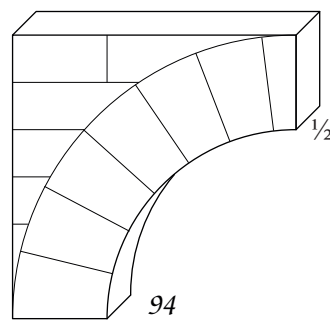
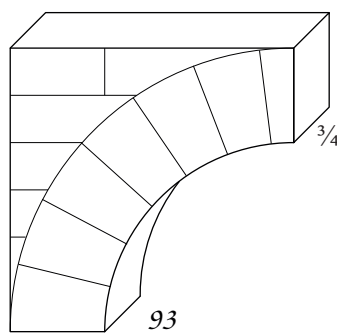
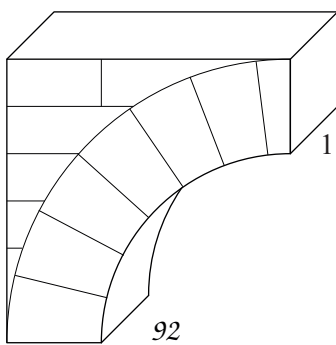
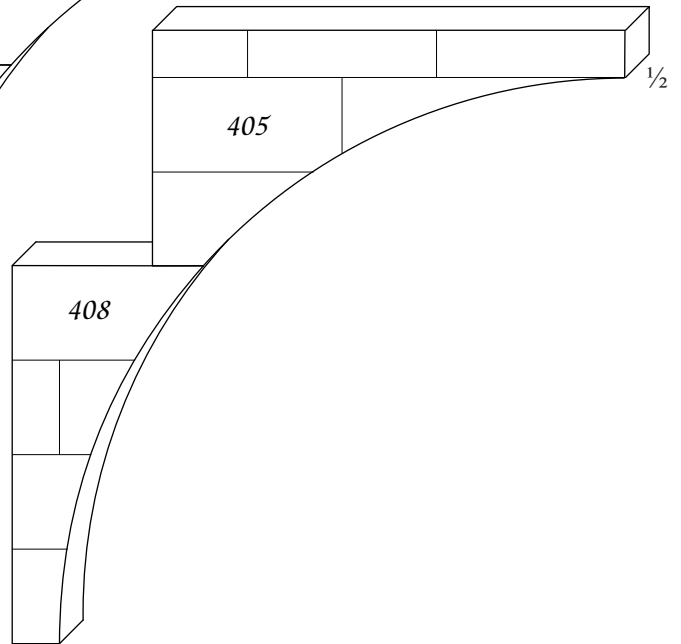
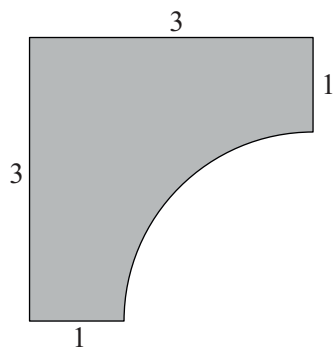
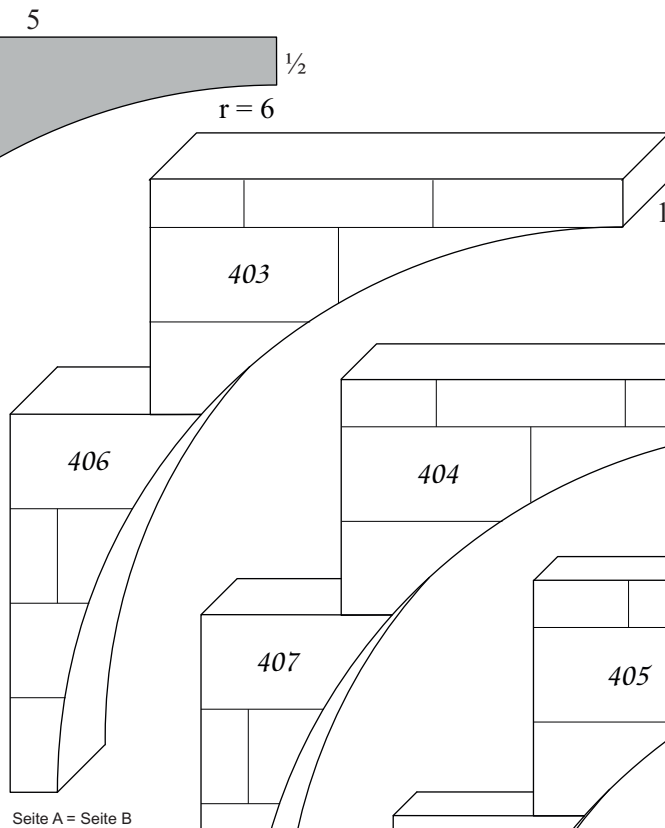
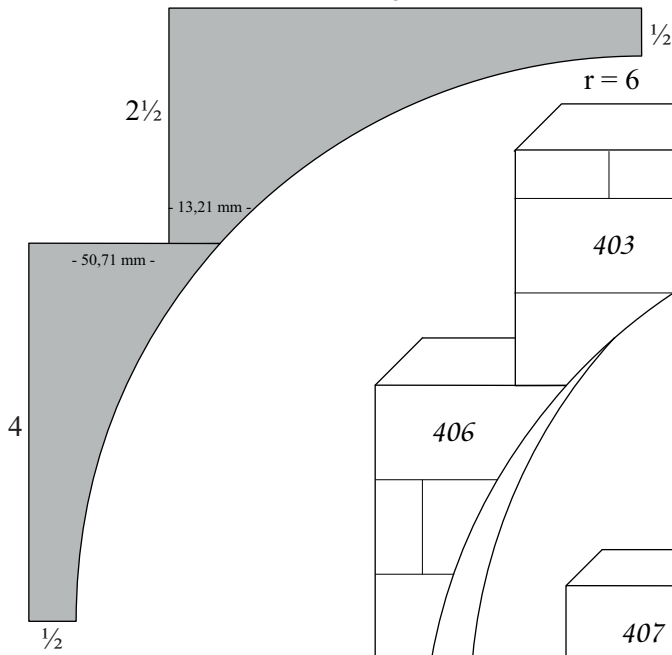
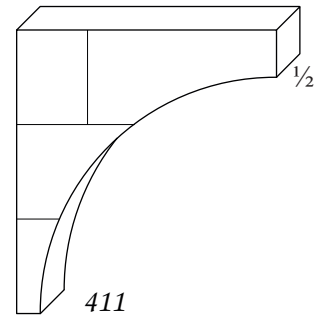
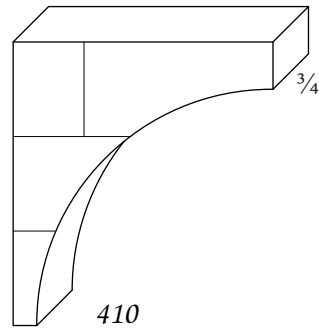
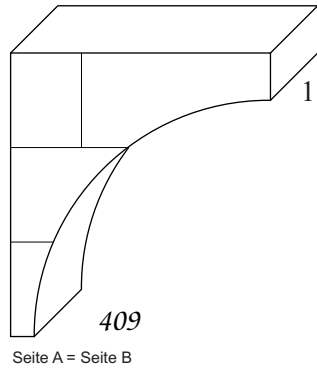
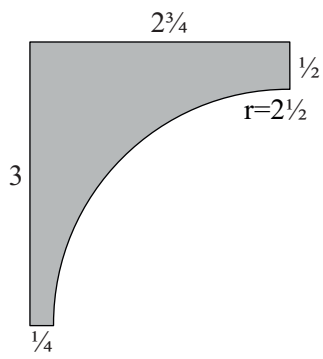
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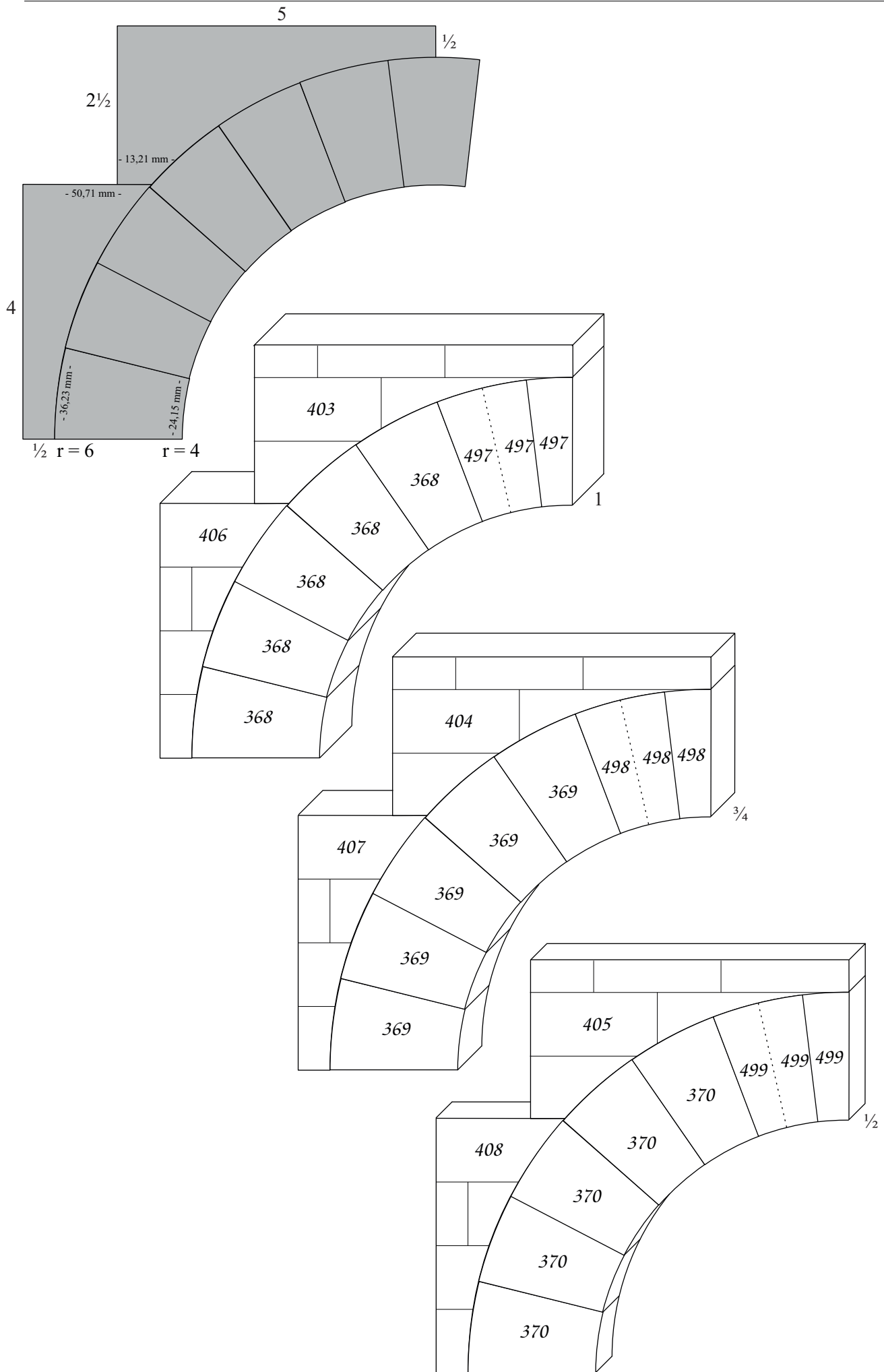


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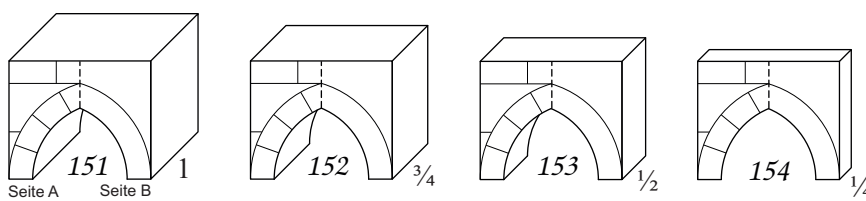
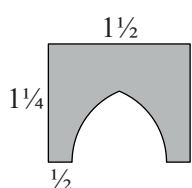
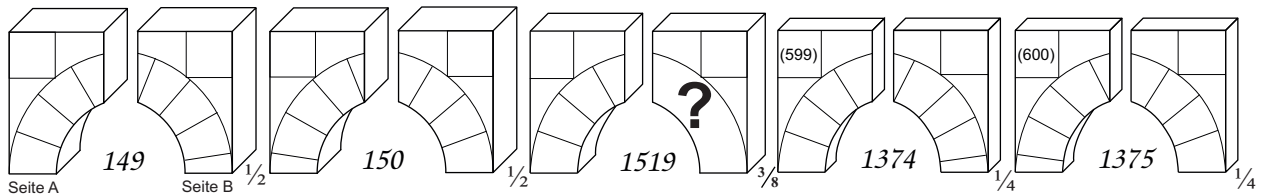
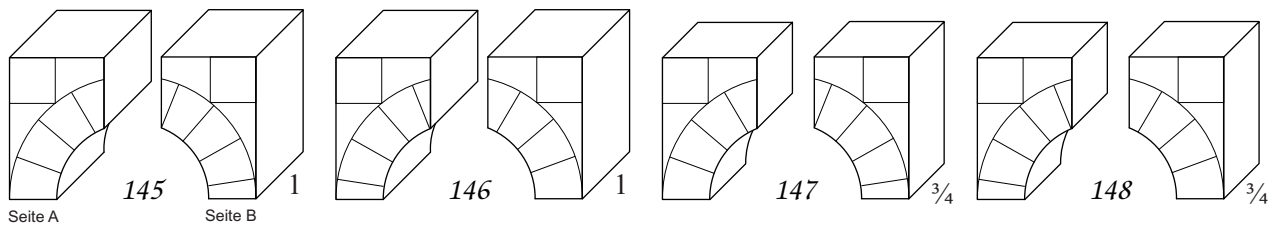
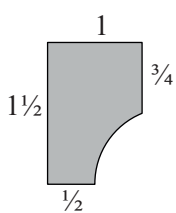
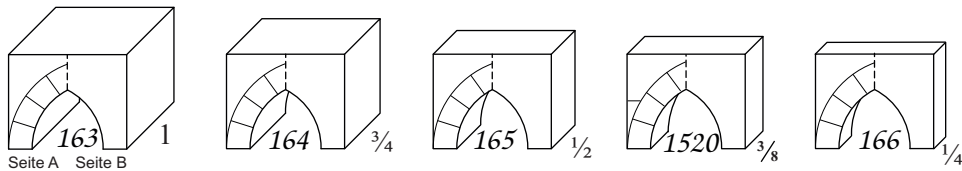
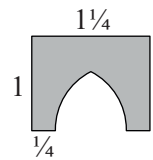
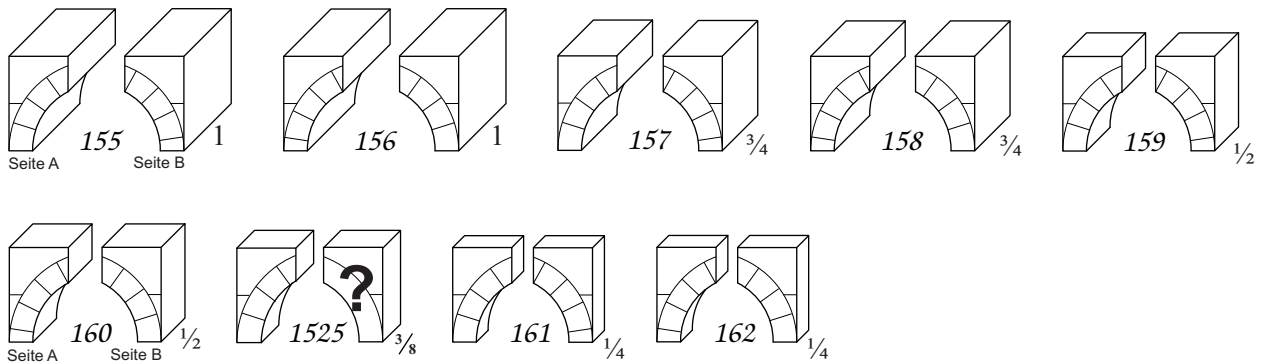
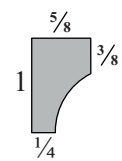
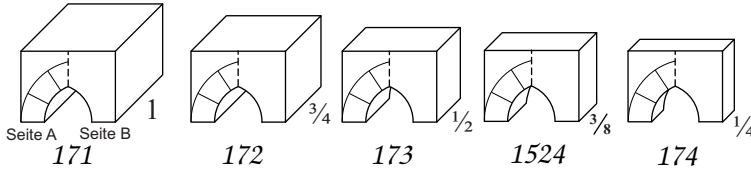
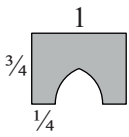
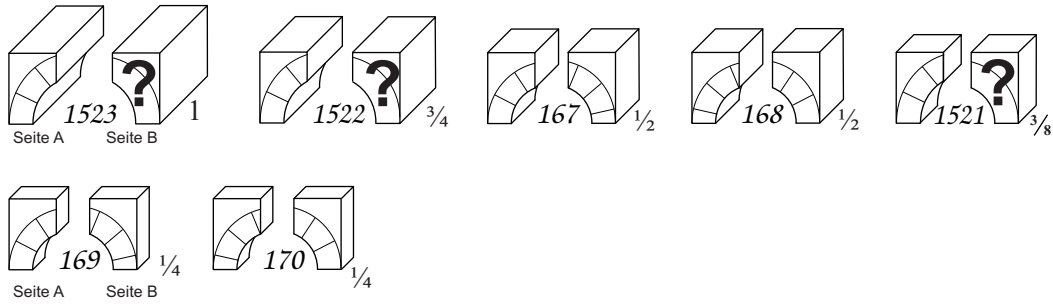
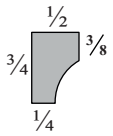


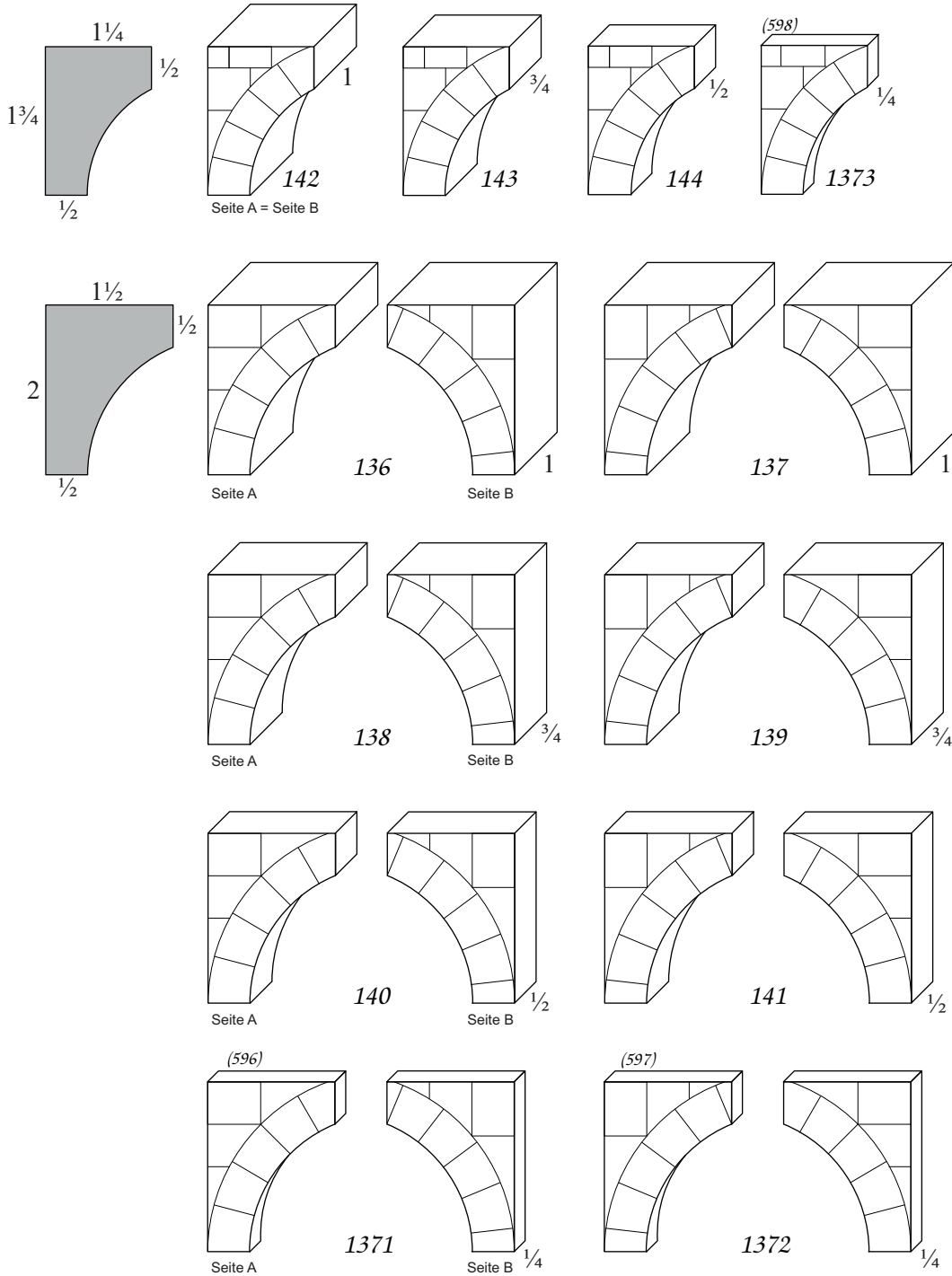


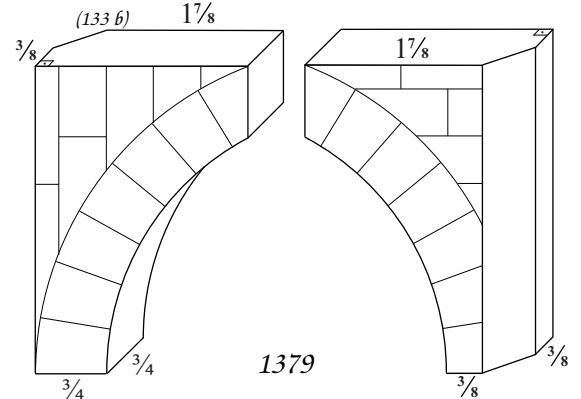
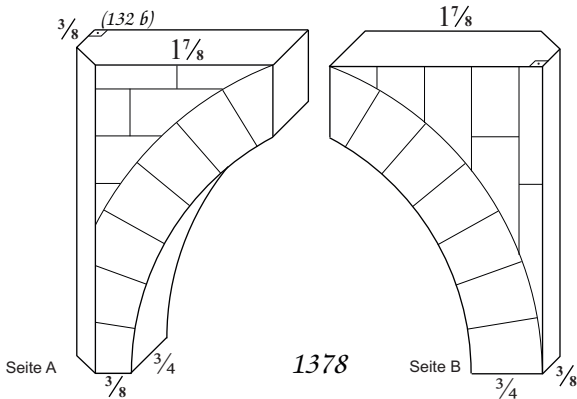
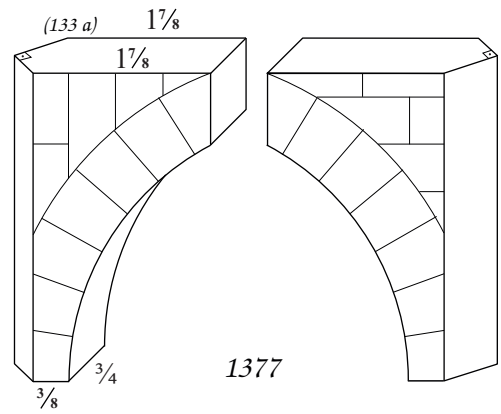
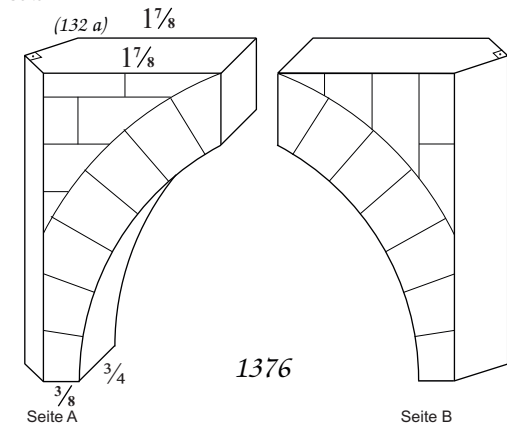
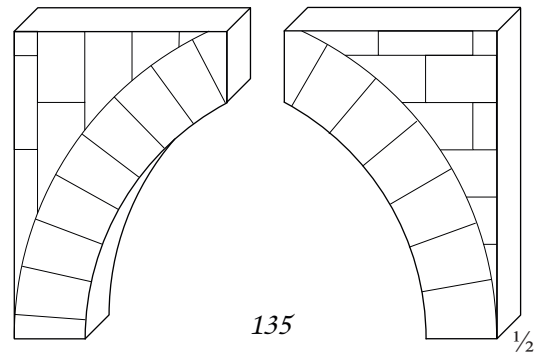
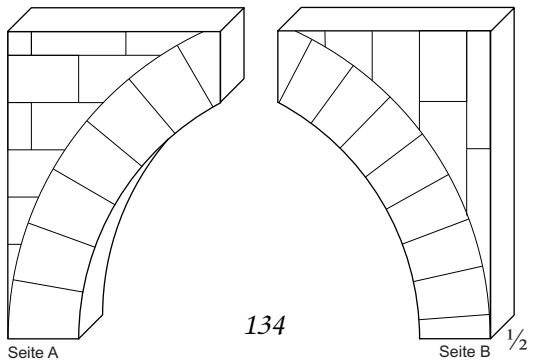
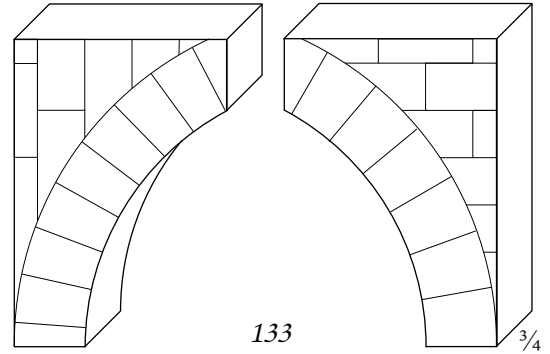
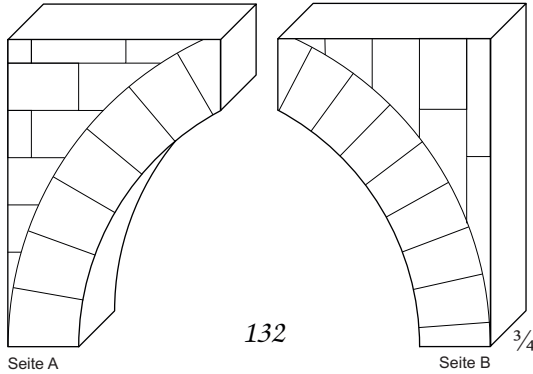
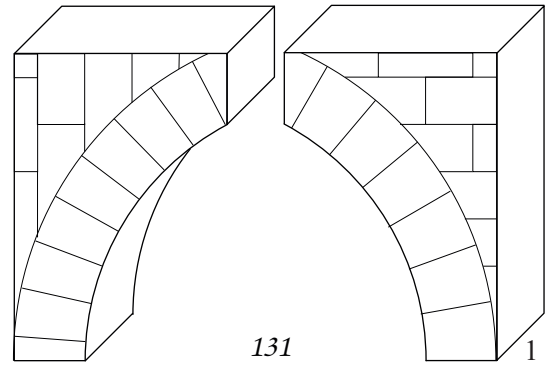
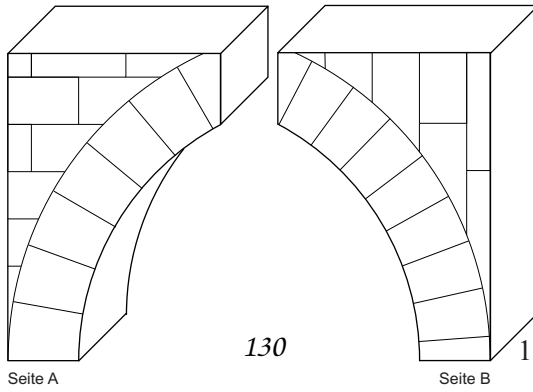
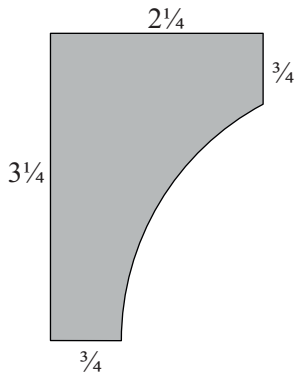
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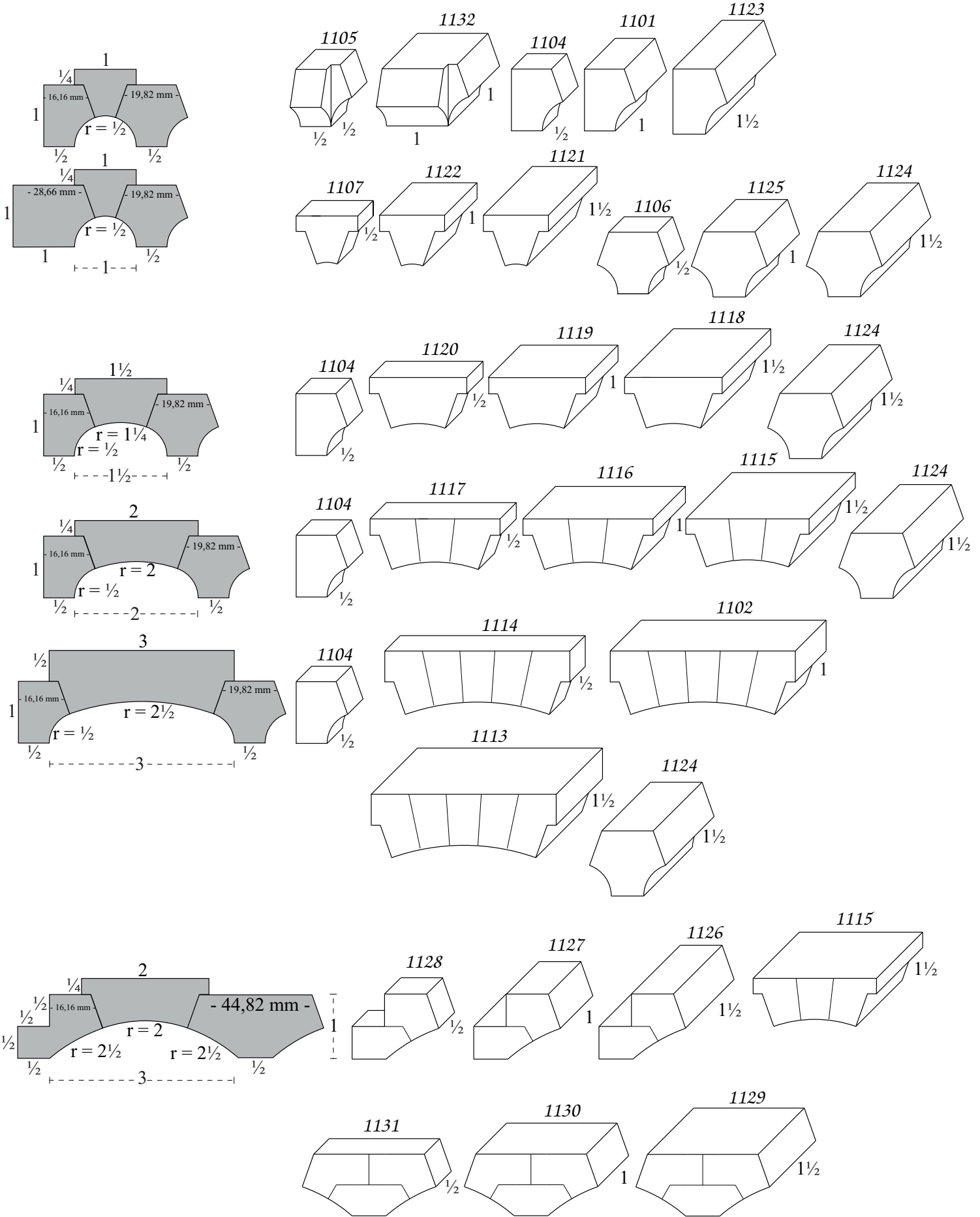


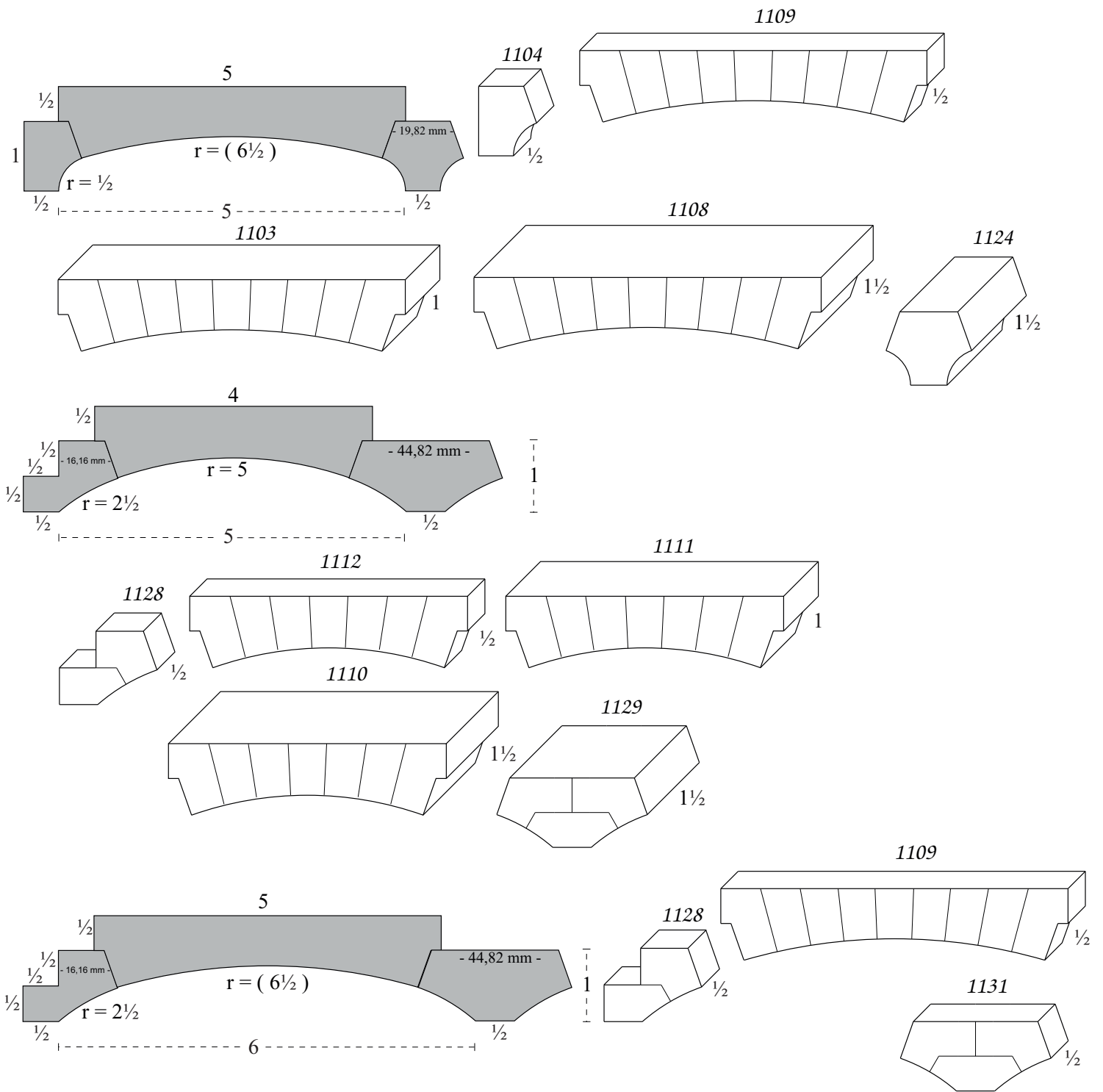
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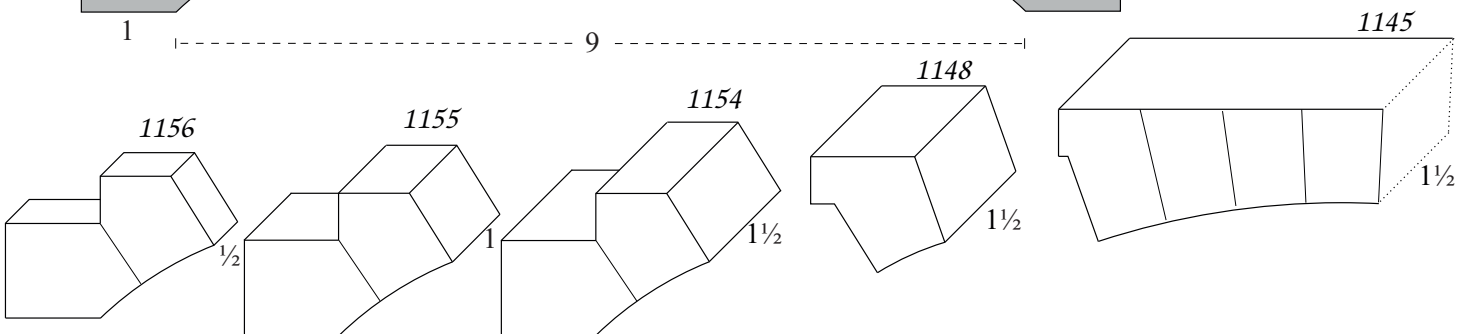
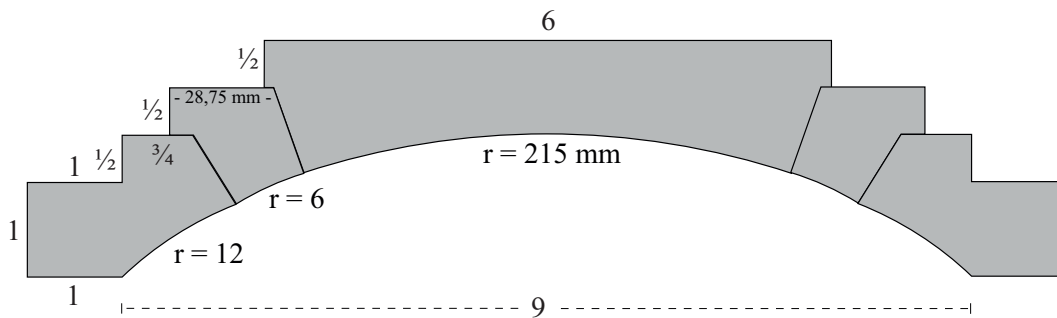
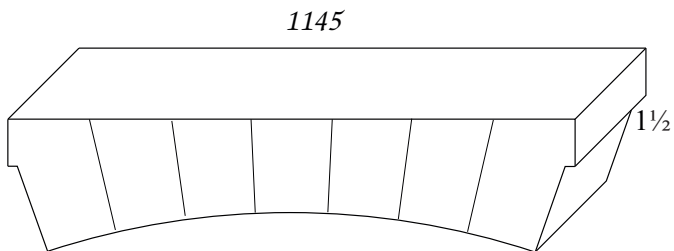
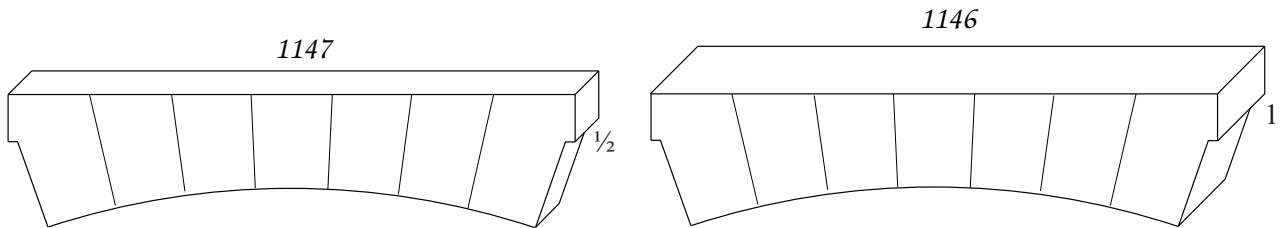
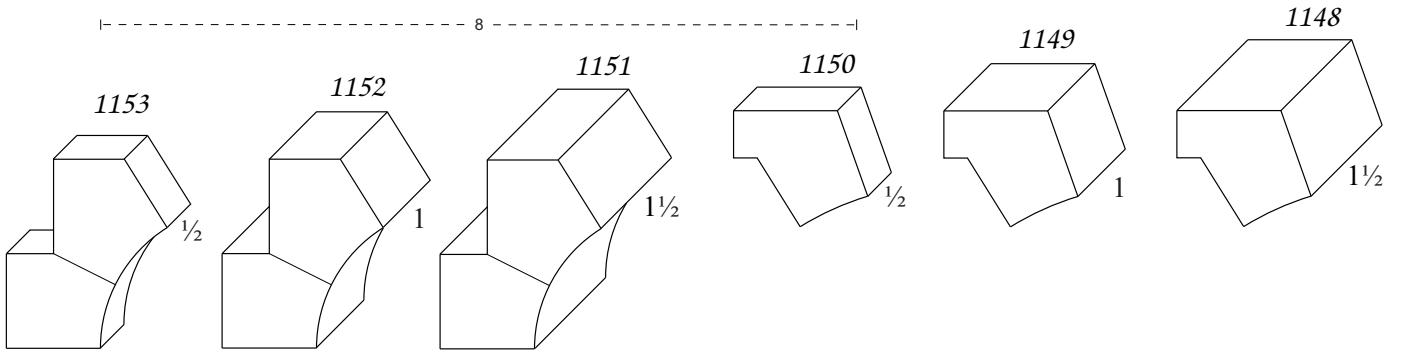
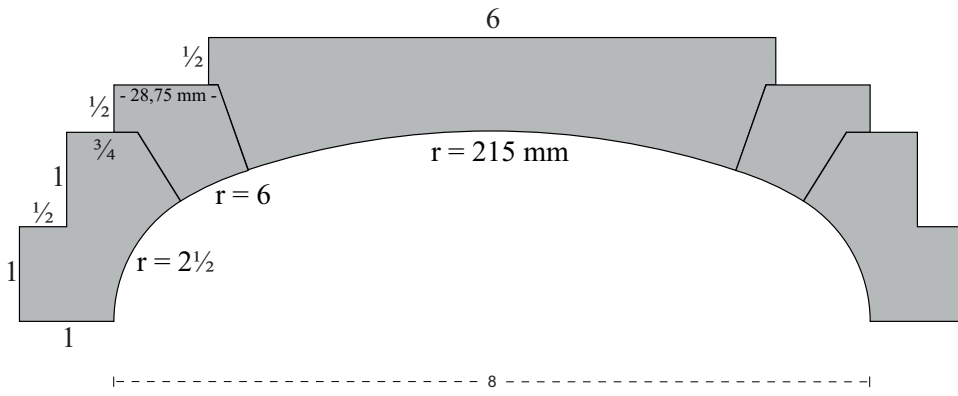


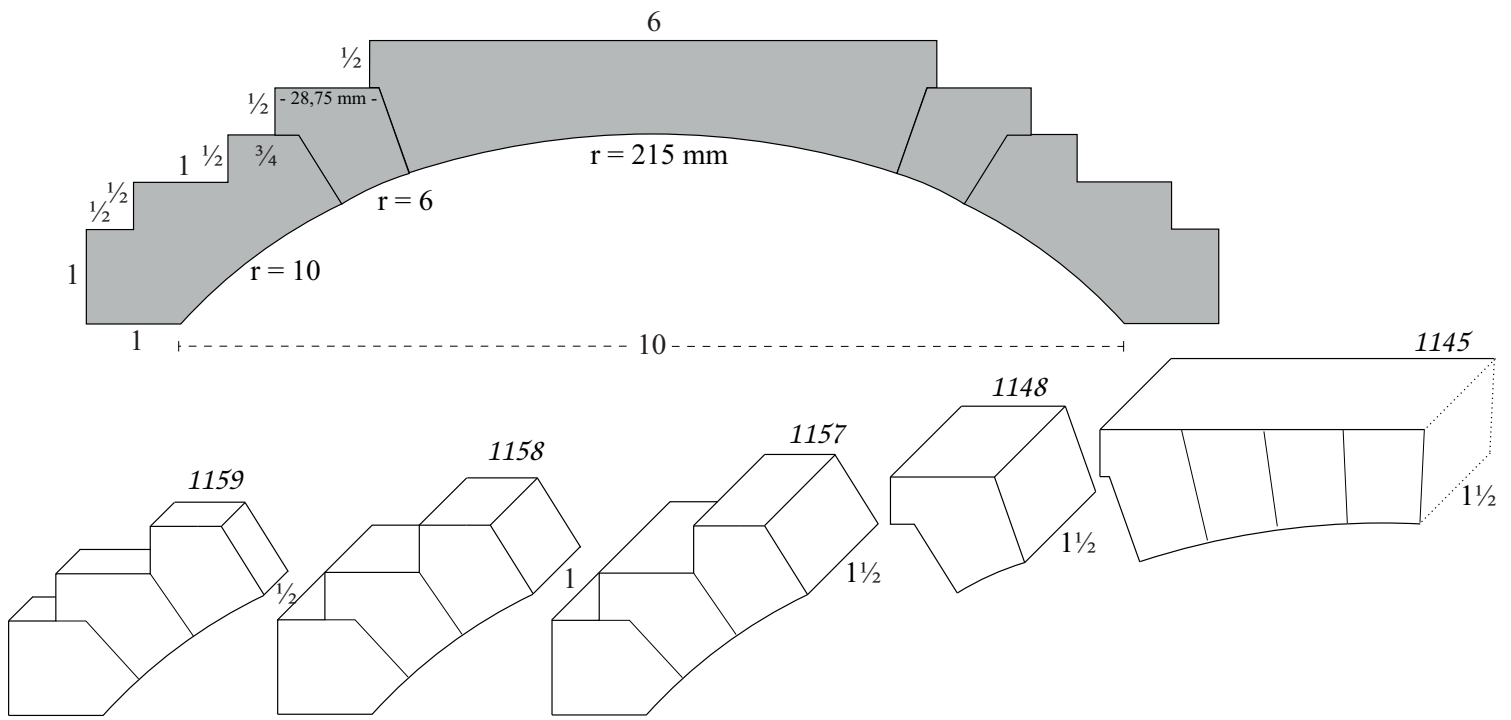


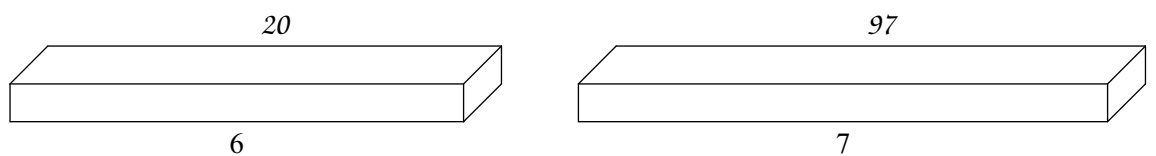
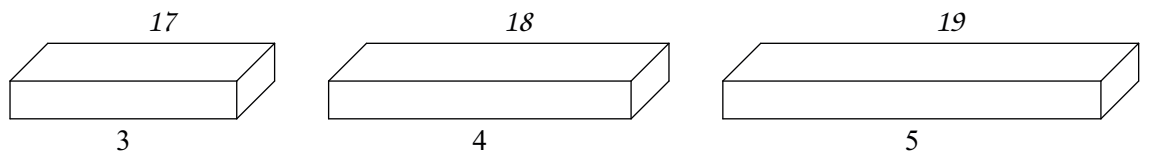
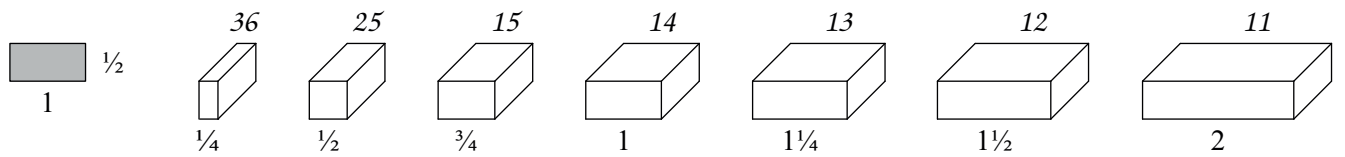
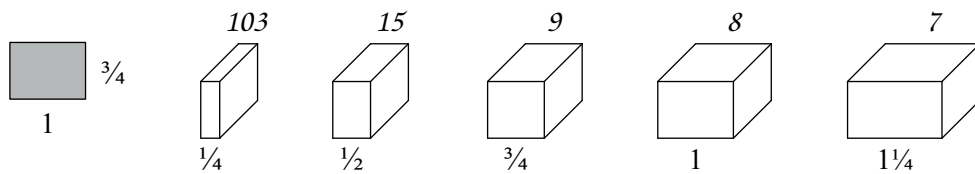
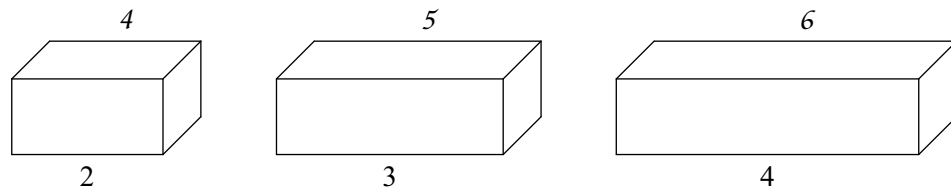
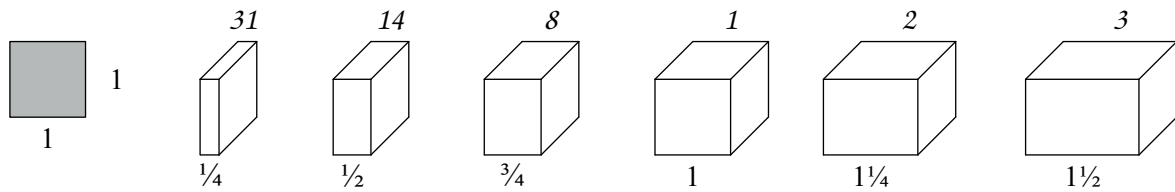
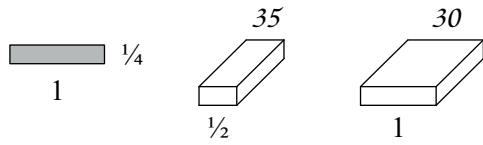
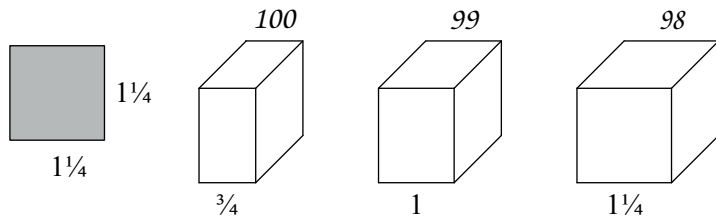


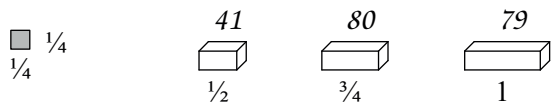
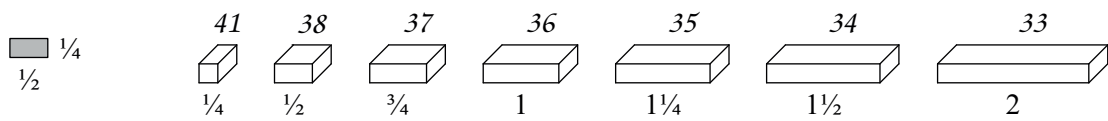
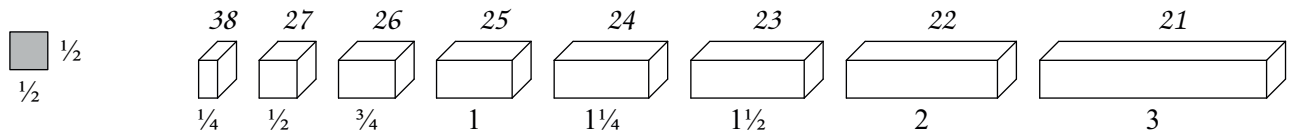
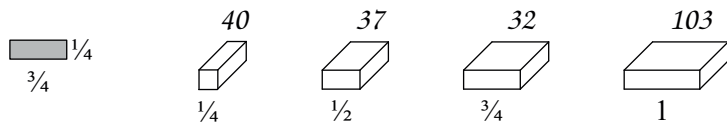
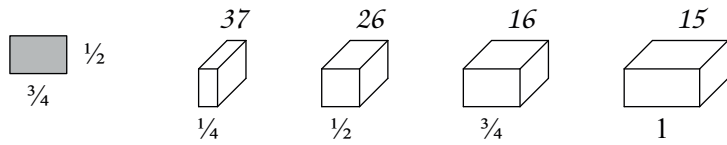
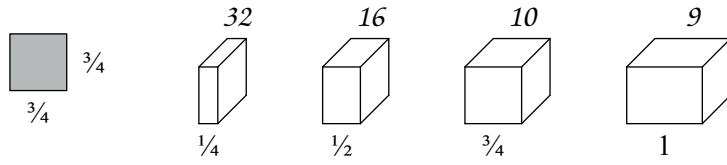
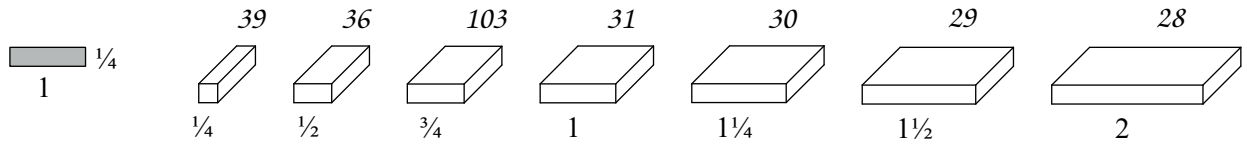




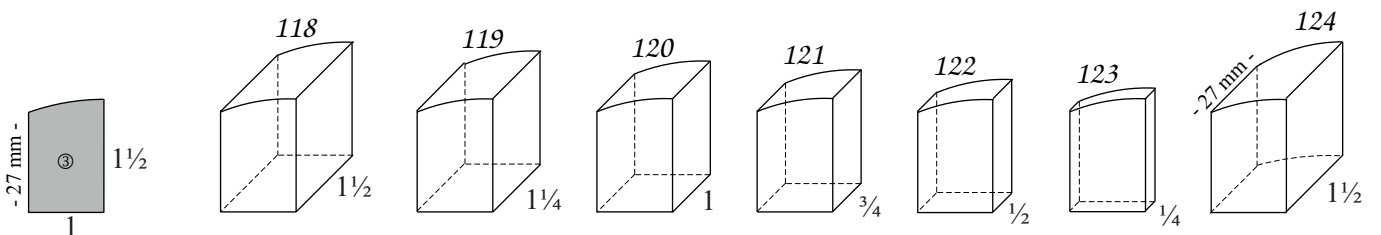
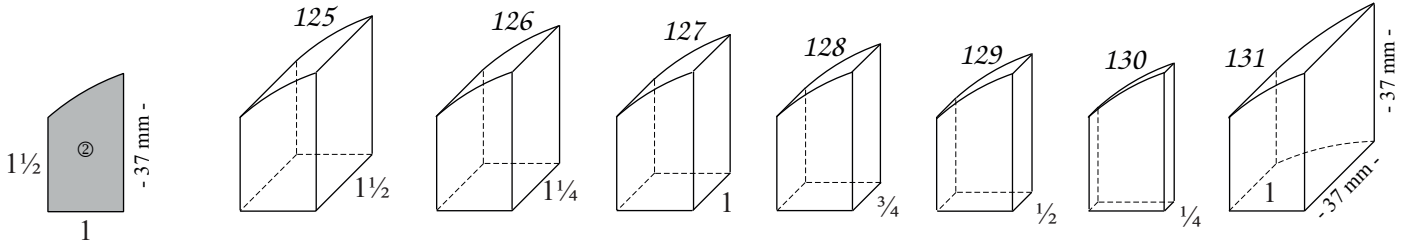
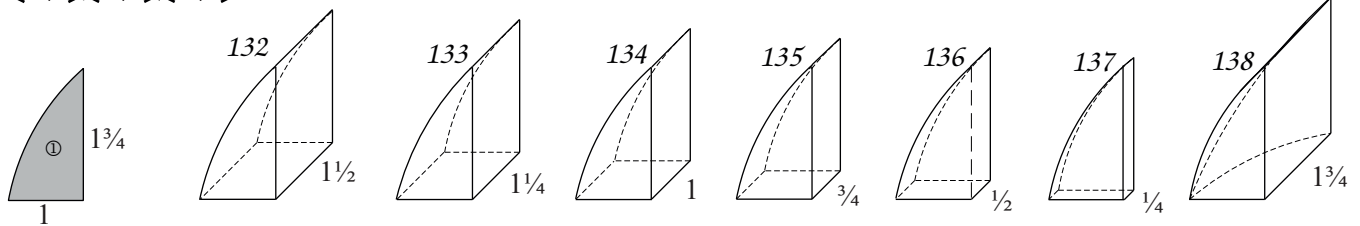
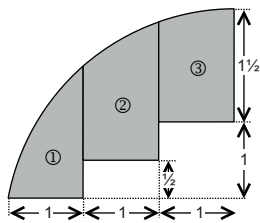
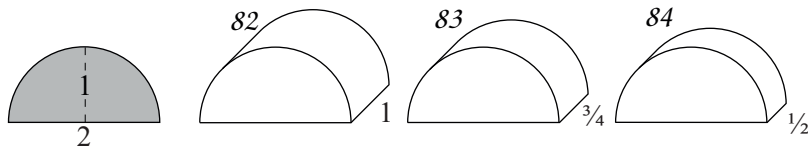
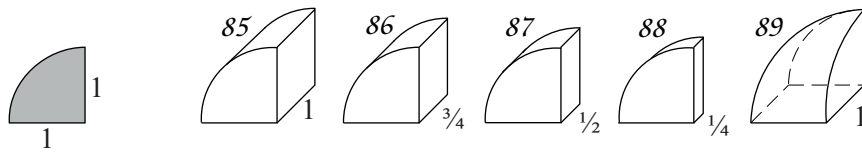
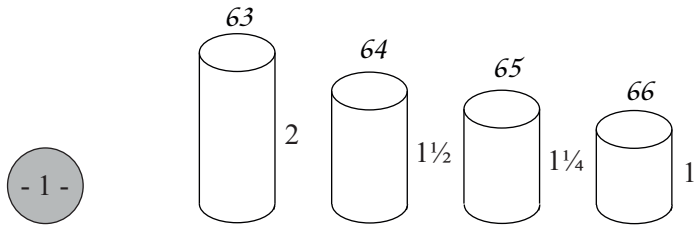
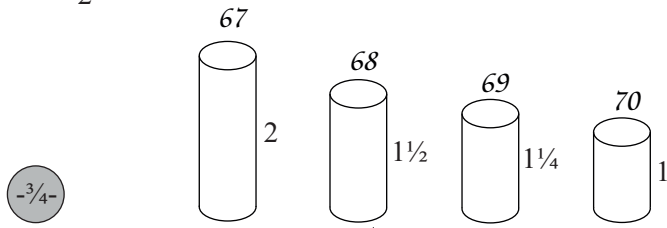
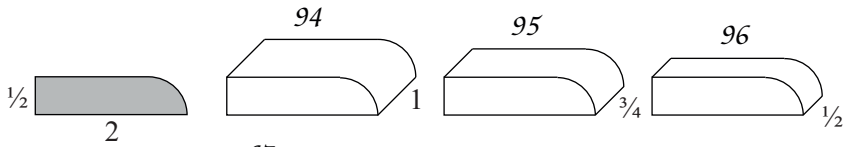


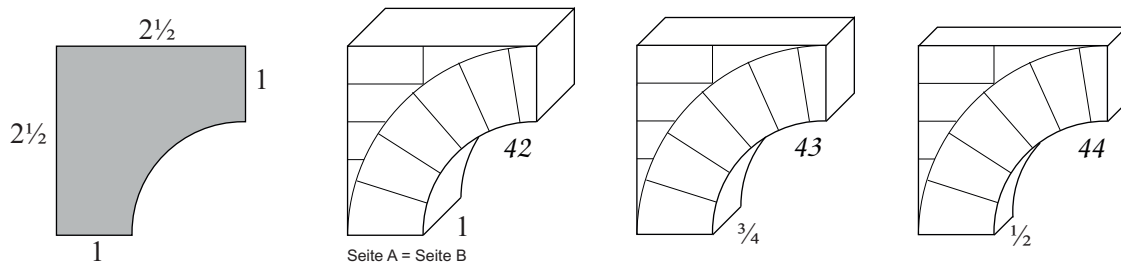
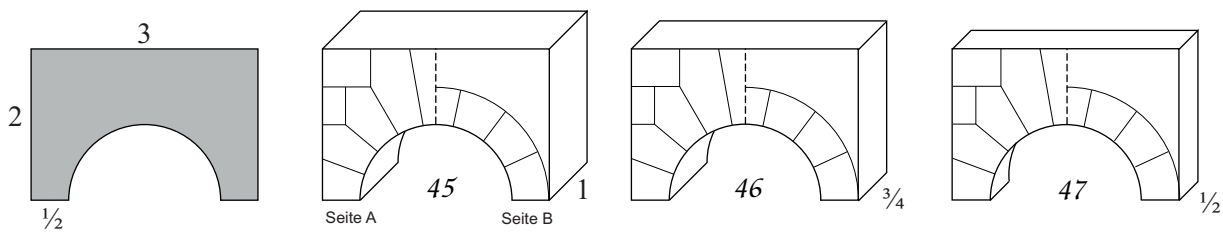
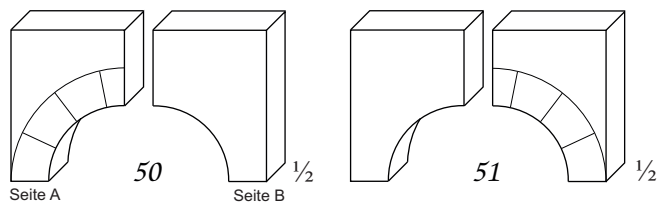
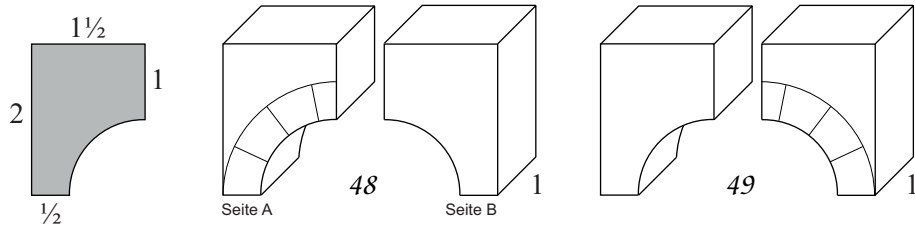
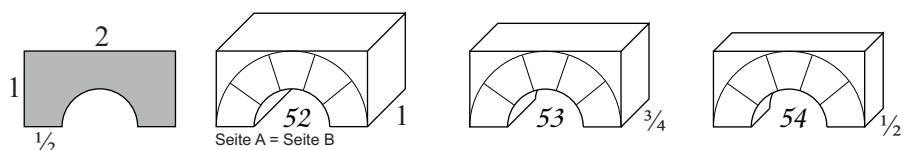
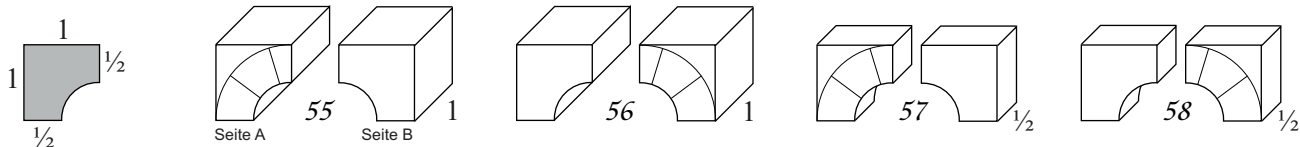
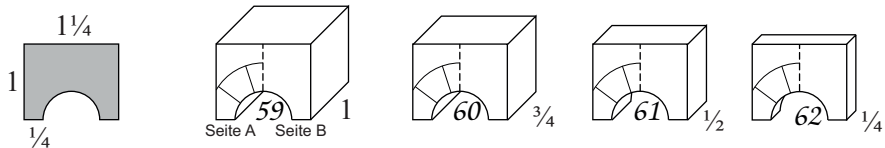












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Ergänzungen.

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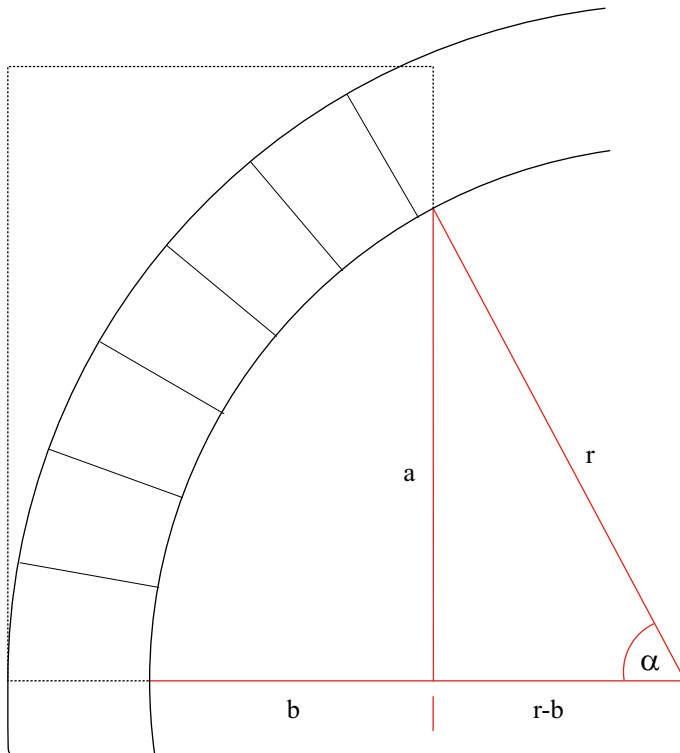
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| 41 | 81 | | 91 | 288 | 2 | | | |
| 42 | 95 | | 92 | 286 | 2 | | | |
| 43 | 96 | | 93 | 284 | 2 | | | |
| 44 | 97 | | 94 | 337 | | | | |
| 45 | 98 | | 95 | 338 | | | | |
| 46 | 99 | | 96 | 339 | | | | |
| 47 | 100 | | 97 | 25 | | | | |
| 48 | 101 | | 98 | 7 | | | | |
| 49 | 102 | | 99 | 8 | | | | |
| 50 | 103 | | 100 | 9 | | | | |

Bemerkungen

| | |
|---|-------------------------|
| 1 | 35 statt 37,5 mm hoch |
| 2 | 42,5 statt 37,5 mm hoch |

Diese Seite ist reserviert für
Ergänzungen.

Gotische Bogen / Bananensteine



Pythagoras:

$$a^2 + (r - b)^2 = r^2$$

$$r = \frac{(a^2 + b^2)}{2 \times b}$$

$$\tan \alpha = \frac{a}{r - b}$$

$$\tan \alpha = \frac{2 \times a \times b}{a^2 - b^2}$$

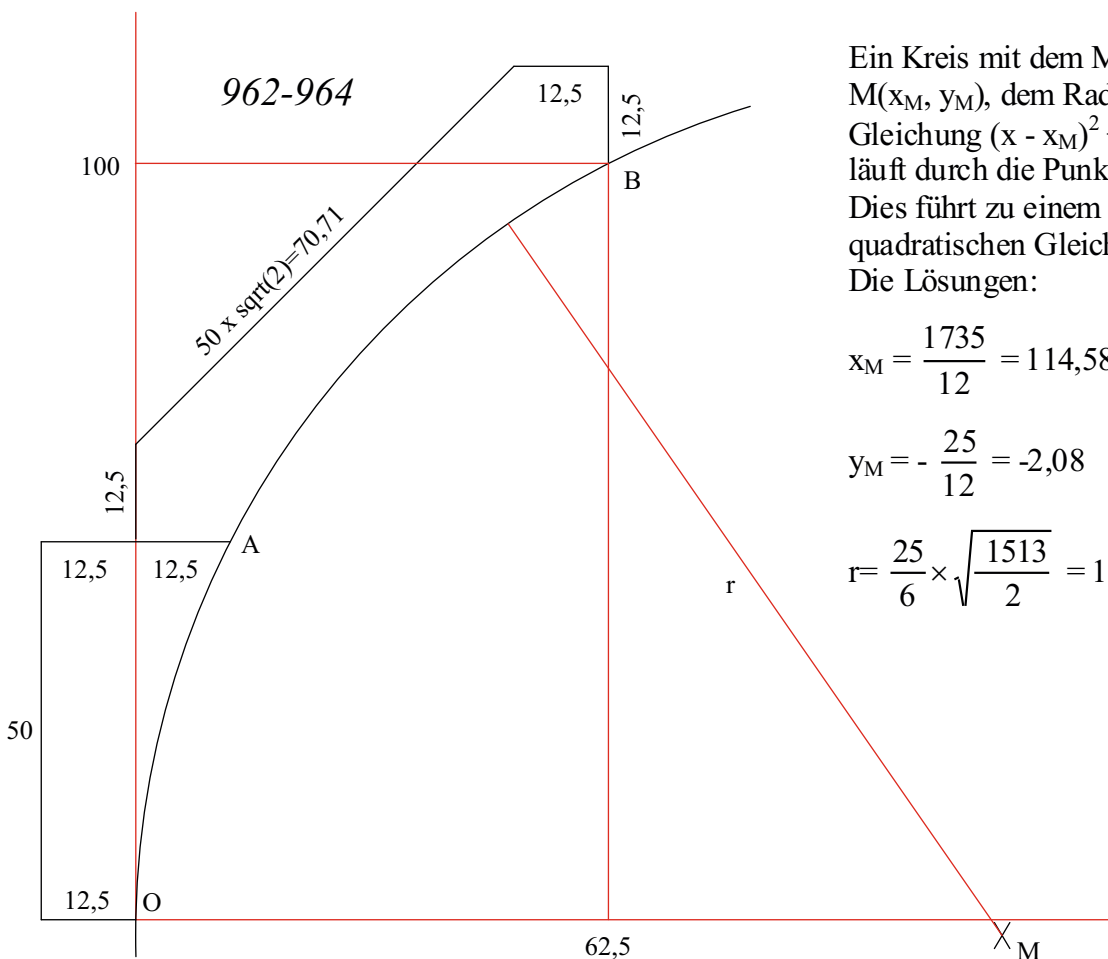
$$\alpha = \arctan \frac{2 \times a \times b}{a^2 - b^2}$$

n = Anzahl der Bogenstriche auf Vorder- und Rückseite

α_i = Winkel zum i -ten Bogenstrich

Vorderseite $\alpha_i = \frac{\alpha \times 2i}{n}$

Rückseite $\alpha_i = \frac{\alpha \times (2i - 1)}{n}$



Ein Kreis mit dem Mittelpunkt $M(x_M, y_M)$, dem Radius r und der Gleichung $(x - x_M)^2 + (y - y_M)^2 = r^2$ läuft durch die Punkte O , A und B . Dies führt zu einem System von drei quadratischen Gleichungen.

Die Lösungen:

$$x_M = \frac{1735}{12} = 114,58$$

$$y_M = -\frac{25}{12} = -2,08$$

$$r = \frac{25}{6} \times \sqrt{\frac{1513}{2}} = 114,60$$

Es gilt für jedes regelmäßiges Vieleck:

mit

a Seitenlänge

r Inkreisradius

d Inkreisdurchmesser $d = 2r$

R Umkreisradius

D Umkreisdurchmesser $D = 2R$

$$a = D \sin \alpha = d \tan \alpha$$

$$D = a / \sin \alpha$$

$$d = a / \tan \alpha$$

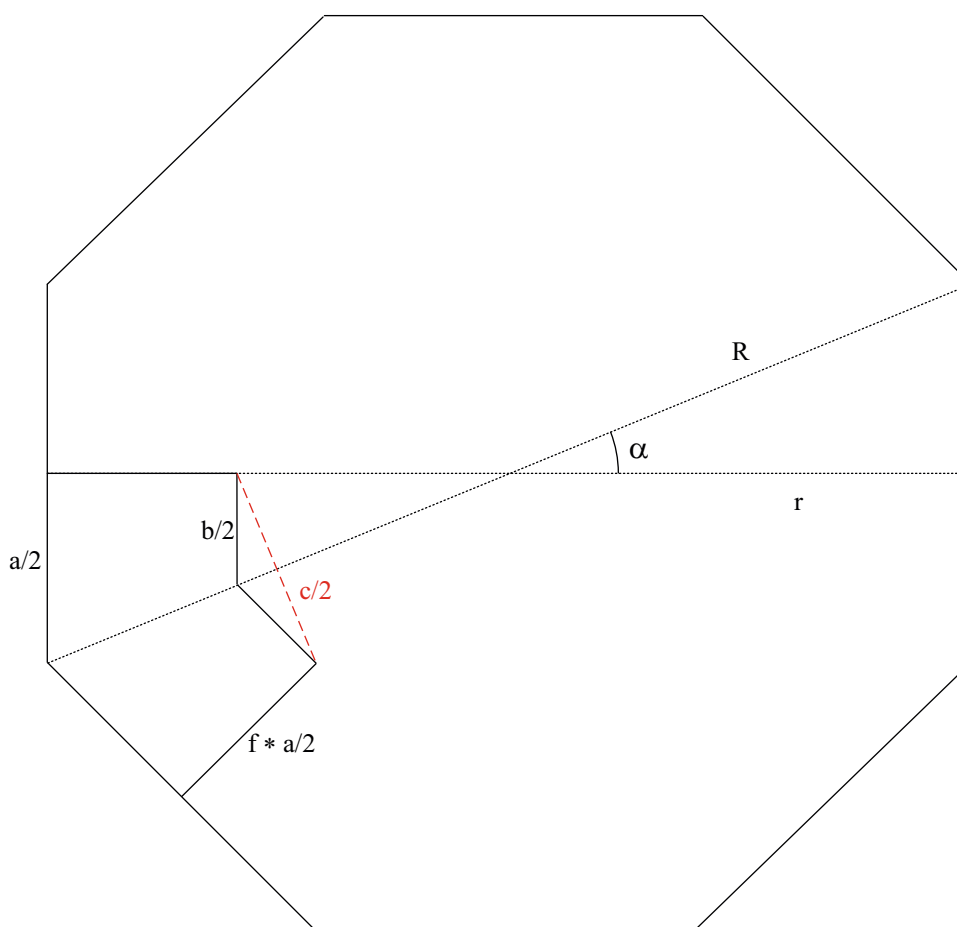
Speziell im regelmäßigen Achteck ist:

$$\alpha = 22,5^\circ$$

$$\tan \alpha = 0,4142$$

$$\sin \alpha = 0,3827$$

$$\cos \alpha = 0,9239$$



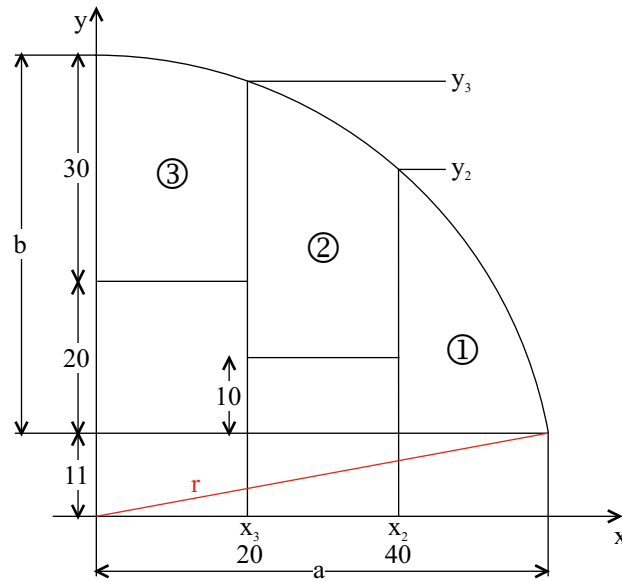
Für die **Achtecksteine** gilt:

$$b = a (1 - f * \tan \alpha)$$

$$c = a (\cos \alpha - f * \sin \alpha)$$

| a/2 in mm | f | b/2 in mm | c in mm | GKNF - Nr |
|-----------|-----|-----------|---------|-----------|
| 25 | 1 | 14,64 | - | 340-344 |
| 18,75 | 4/3 | 8,39 | - | 345-349 |
| 15,63 | 8/5 | 5,37 | - | 1498 |
| 12,5 | 2 | 2,14 | 3,96 | 350-354 |
| 12,5 | 1 | 7,32 | - | 355-359 |
| 6,25 | 2 | 1,07 | 1,98 | 360-365 |

Kuppelsteine (Kleinkaliber 118 – 138)



Die drei Steine ergeben einen Spitzbogen (Seite 0-41), der um 90° nach rechts gedreht ist.

Es gilt

$$a^2 + (r - b)^2 = r^2 \quad \Leftrightarrow \quad r = \frac{a^2 + b^2}{2b} = 61 \text{ mm} \quad \text{und} \quad r - b = 11 \text{ mm}$$

Die Kuppelsteine ①, ② und ③ liegen auf einem Kreis mit der Gleichung $x^2 + y^2 = r^2$

Also
$$y_3 = \sqrt{r^2 - x_3^2} = \sqrt{61^2 - 20^2} = 57,63 \text{ mm}$$

$$y_2 = \sqrt{r^2 - x_2^2} = \sqrt{61^2 - 40^2} = 46,05 \text{ mm}$$

| Stein | Länge links | Länge rechts | |
|-------|--------------|------------------------------------|------------------------------------|
| ① | KK 132 – 138 | $y_2 - 11 = 35,05 \approx 35$ | - |
| ② | KK 125 – 131 | $y_3 - 10 - 11 = 36,63 \approx 37$ | $y_2 - 10 - 11 = 25,05 \approx 25$ |
| ③ | KK 118 - 124 | 30 | $y_2 - 20 - 11 = 26,63 \approx 27$ |

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